



India's First Private Rocket

Vikram-1

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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

Sarnath's Inscription on the UNESCO World Heritage List: Global Recognition of India's Heritage Conservation Policy and Cultural Diplomacy

Context:

Recently, during the 48th Session of the UNESCO World Heritage Committee held in Busan, South Korea, Sarnath was inscribed on the UNESCO World Heritage List. With this inscription, Sarnath has become India's 45th World Heritage Site and the fourth World Heritage Site in Uttar Pradesh. This recognition is not merely an international acknowledgment of an archaeological site; it also reaffirms India's ancient Buddhist heritage, cultural diplomacy, and global spiritual leadership. At a time when India is increasingly projecting its civilizational heritage on the global stage, Sarnath's inclusion in the World Heritage List holds immense significance.

Historical and Religious Significance of Sarnath:

- Located near Varanasi in Uttar Pradesh, Sarnath is one of the most sacred Buddhist pilgrimage sites in the world. It was here that Lord Gautama Buddha, after attaining enlightenment at Bodhi Gaya, delivered his first sermon to his five former companions.
- This event is known as Dharmachakrapravartana (Turning of the Wheel of Dharma) or Dhammacakkapavattana, marking the foundation of the Buddhist Sangha and the beginning of the organized spread of

Buddhism.

- Ancient Buddhist texts refer to Sarnath as Rishipattana (Isipatana Migadaya) and Mrigadava (Deer Park). In the 3rd century BCE, Emperor Ashoka constructed several monuments, stupas, and pillars at the site.
- The famous Ashokan Pillar at Sarnath served as the inspiration for the State Emblem of the Republic of India, while the Ashoka Chakra, depicted on the Indian National Flag, is derived from this heritage. Thus, Sarnath is not only a sacred Buddhist site but also an integral part of India's national identity.

UNESCO World Heritage List:

- The UNESCO World Heritage List recognizes cultural and natural sites possessing Outstanding Universal Value (OUV). Its primary objective is to safeguard humanity's shared heritage and ensure its preservation for future generations.
- World Heritage Sites are broadly classified into three categories:
 - » Cultural Heritage
 - » Natural Heritage
 - » Mixed Heritage
- Under the 1972 UNESCO World Heritage Convention, a structured nomination process is followed for inscription.
- Initially, a country places a site on its Tentative List. This is followed by the

preparation of a comprehensive Nomination Dossier, which is evaluated by expert advisory bodies such as the International Council on Monuments and Sites (ICOMOS) or the International Union for Conservation of Nature (IUCN). Finally, the UNESCO World Heritage Committee decides on the inscription based on the site's Authenticity, Integrity, and Outstanding Universal Value.

- Sarnath remained on UNESCO's Tentative List for nearly three decades. Its inscription on the permanent World Heritage List marks a significant achievement for India's heritage conservation efforts.

Significance of Sarnath's Inclusion in the World Heritage List:

- The inscription of Sarnath carries multidimensional significance.
- First, it strengthens the global recognition of India's Buddhist cultural heritage. Buddhism continues to inspire millions of followers across Asia and the world. Consequently, Sarnath's recognition reinforces India's position as the cradle of Buddhist civilization.
- Second, it enhances India's Cultural Diplomacy. India has consistently projected its Buddhist heritage as an important component of its soft power. Countries such as Sri Lanka, Thailand, Japan, Myanmar, Vietnam, Mongolia, Bhutan, and several Southeast Asian nations share deep cultural and historical ties with India through Buddhism. The recognition of Sarnath further strengthens these civilizational linkages.
- Third, the inscription is expected to boost the Buddhist Tourism Circuit in Uttar Pradesh. By connecting Sarnath with Kushinagar, Shravasti, Sankisa, and Kaushambi, it will promote religious tourism, generate local employment, encourage traditional handicrafts, and stimulate the service sector.
- Furthermore, World Heritage status enhances opportunities for international cooperation in heritage conservation,

scientific research, site management, and sustainable tourism.



SARNATH
INSCRIBED AS
UNESCO
WORLD HERITAGE SITE
 A PROUD MOMENT FOR INDIA

CONTEXT:
 Recently, during the 48th Session of the UNESCO World Heritage Committee held in Busan, South Korea, Sarnath was inscribed on the UNESCO World Heritage List. With this inscription, Sarnath has become India's 45th World Heritage Site and the fourth World Heritage Site in Uttar Pradesh.

SARNATH AT A GLANCE

India's 45th World Heritage Site	Uttar Pradesh's 4th World Heritage Site
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WHAT IS THE UNESCO WORLD HERITAGE LIST?
 The UNESCO World Heritage List recognizes cultural and natural sites possessing **Outstanding Universal Value (OUV)**. Its primary objective is to safeguard humanity's shared heritage and ensure its preservation for future generations.

Main Objective:
 To identify, protect and preserve the cultural and natural heritage which is of outstanding value to all humanity.

THREE CATEGORIES OF WORLD HERITAGE SITES

1. CULTURAL HERITAGE Sites that represent the creation of humankind and have cultural, historical, aesthetic, archaeological or scientific significance. Examples: Taj Mahal, Ajanta Caves, Hampi, Qutub Minar	2. NATURAL HERITAGE Sites that consist of physical, biological or geological formations, natural habitats of threatened species or areas of exceptional natural beauty. Examples: Manas Wildlife Sanctuary, Western Ghats, Sundarbans National Park	3. MIXED HERITAGE Sites that contain both significant cultural and natural values and demonstrate the interaction between people and nature. Examples: Khangchendzonga National Park, Bhimbetka Rock Shelters
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ABOUT SARNATH

- Located near Varanasi, Uttar Pradesh
- Where Lord Buddha delivered his first sermon (Dhammacakkapavattana Sutta) after attaining enlightenment
- Home to important Buddhist monuments like Dhamek Stupa, Chaukhandi Stupa, Ashoka Pillar, Mahaparinirvana Kuti Vihara
- A major center of Buddhist learning in ancient India

SARNATH – A TIMELESS SYMBOL OF PEACE, DHARMA AND OUR SHARED HERITAGE.
 LET'S PRESERVE IT FOR THE WORLD AND FOR FUTURE GENERATIONS.

Reinterpreting History from an Indigenous Perspective:

- Before Sarnath's inscription on the World Heritage List, the Archaeological Survey of India (ASI) revised the site's information plaque.
- Earlier, the discovery of Sarnath had largely been attributed to colonial officials. The revised interpretation appropriately acknowledges the contribution of Babu Jagat Singh, a local ruler, in the site's rediscovery and preservation.
- This revision represents more than a mere change in historical attribution; it reflects a broader effort to recognize indigenous contributions and present Indian history through a more balanced and inclusive

perspective.

Buddhist Circuit and Cultural Diplomacy:

- The Government of India has undertaken several initiatives in recent years to preserve and promote the country's Buddhist heritage.
- The Buddhist Circuit is one of the flagship initiatives, connecting important Buddhist sites such as Bodh Gaya, Sarnath, Kushinagar, Rajgir, Nalanda, Shravasti, Vaishali, and other sacred locations through improved tourism infrastructure.
- Additionally, India has strengthened its cultural diplomacy through initiatives such as:
 - » International Buddhist Conferences
 - » Cultural exchange programmes
 - » Buddhist exhibitions abroad
 - » Digital archiving of heritage
 - » Scientific conservation of historical monuments
- Sarnath's World Heritage status is expected to further reinforce these initiatives and expand India's cultural outreach globally.

Challenges:

- While obtaining World Heritage status is a significant achievement, ensuring its long-term conservation presents a greater challenge.
- The growing influx of tourists can increase pressure on monuments and infrastructure. Unplanned urbanization, pollution, encroachments, and environmental degradation pose serious threats to heritage sites. If tourism development is not aligned with conservation principles, the site's Authenticity and Integrity may be compromised.
- Moreover, greater emphasis must be placed on:
 - » Community participation
 - » Scientific conservation techniques
 - » Digital documentation
 - » Comprehensive site management plans
- Global recognition alone is insufficient; sustainable conservation remains the true measure of success.

Way Forward:

- Sarnath's World Heritage inscription opens new opportunities for India.
- Rather than viewing it solely as a tourism destination, Sarnath should be developed as a global centre of knowledge, culture, philosophy, and peace.
- This requires:
 - » Integrating heritage conservation with local development
 - » Leveraging digital technologies for preservation and interpretation
 - » Promoting heritage awareness among youth
 - » Encouraging academic research and interdisciplinary studies
 - » Strengthening international cooperation in heritage conservation
- Additionally, the Buddhist Circuit should be enhanced through improved connectivity, interpretation centres, multilingual visitor facilities, and sustainable tourism models that balance conservation with development.

Conclusion:

The inscription of Sarnath on the UNESCO World Heritage List represents global recognition of India's rich civilizational heritage. It is not merely an acknowledgment of the site where Lord Buddha delivered his first sermon but also a tribute to India's enduring legacy of compassion, non-violence, the Middle Path, and peace. This achievement is expected to strengthen India's cultural diplomacy, heritage conservation, and Buddhist tourism while enhancing its global cultural influence. Going forward, this international recognition should be transformed into a long-term national asset through sustained conservation, research, community participation, and sustainable development, ensuring that Sarnath continues to inspire future generations across the world.

Short Issues

Civil Registration System (CRS) Report 2024

Context:

Recently, The Civil Registration System (CRS) Report 2024, released by the Registrar General of India (RGI), shows that over 99% of births and deaths were registered across the country in 2024, indicating significant progress in India's civil registration system.

Key findings of CRS report:

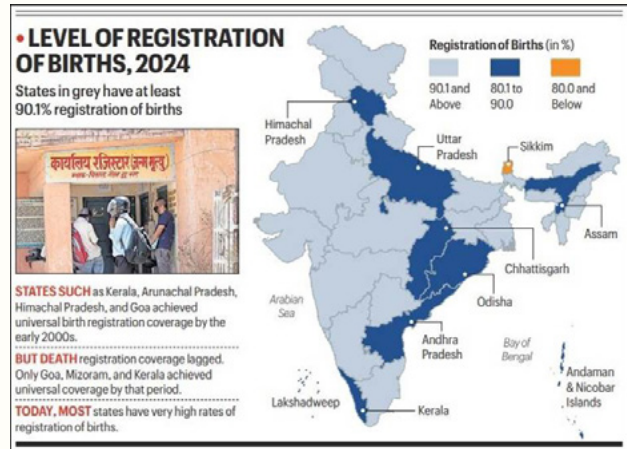
- Birth registration reached 99.1%, with registered births increasing from 2.52 crore (2023) to 2.54 crore (2024).
- Death registration reached 99.4%, with registered deaths rising from 86.6 lakh (2023) to 89.4 lakh (2024).
- 13 States achieved more than 90% birth registration, while 15 States recorded over 90% death registration.
- Stillbirths recorded in 2024 stood at 81,117, with nearly 69% occurring in urban areas.
- The report indicates improved coverage of births, deaths and stillbirths, providing a more reliable picture of India's demographic trends.

About Sex Ratio at Birth (SRB):

- The Sex Ratio at Birth (SRB) refers to the number of female live births per 1,000 male live births during a given period. It is an important indicator of gender equality, reproductive health, and the prevalence of sex-selective practices.
- India's SRB (2024):** 917 females per 1,000 males
- Best Performing States/UTs:**
 - » Arunachal Pradesh: 1,050
 - » Andaman & Nicobar Islands: 984
 - » Meghalaya: 974
 - » Mizoram: 972
 - » Kerala: 970
- Lowest Sex Ratio at Birth (SRB):**
 - » Nagaland: 865
 - » Lakshadweep: 865

» Jharkhand: 890

- Although the national SRB has improved, the report highlights continued regional imbalances, reflecting the persistence of gender bias in some parts of the country.



Significance of the Findings:

- A sex ratio at birth close to the natural biological range (around 950 females per 1,000 males) indicates the absence of widespread sex-selective abortions and reflects greater gender equity.
- Historically, India has faced a male-skewed sex ratio due to son preference and discriminatory social practices.
- The report suggests that States such as Kerala, Meghalaya, Mizoram, and Arunachal Pradesh have achieved balanced or female-favouring sex ratios, whereas some States continue to require targeted interventions.
- Improved registration also strengthens evidence-based policymaking by providing accurate demographic data for planning health, education, social welfare, and population policies.

About the Civil Registration System (CRS):

- The Civil Registration System (CRS) is the official mechanism for the continuous, compulsory, and universal registration of births, deaths, and stillbirths in India.

Legal Framework:

- » Governed by the Registration of Births and Deaths Act, 1969.
- » Implemented by the Registrar General of India (RGI) under the Ministry of Home Affairs.
- » Registration is carried out through State Governments and local registrars.

Objectives:

- » Maintain a complete and permanent record of vital events.
- » Provide legal identity through birth registration.
- » Generate reliable vital statistics for demographic planning.
- » Support implementation of health and social welfare programmes.

Challenges:

- Regional disparities in registration quality and gender outcomes.
- Persistent son preference and sex-selective practices in some areas.
- Delayed registration in remote and tribal regions.
- Need for better public awareness regarding compulsory registration.
- Strengthening digital infrastructure and interoperability across States.

Conclusion:

The CRS Report 2024 reflects India's significant progress towards universal registration of vital events, strengthening the country's demographic database. While improvements in the Sex Ratio at Birth in several States are encouraging, regional disparities continue to highlight the need for sustained efforts to eliminate gender bias and ensure balanced demographic development.

Akal Takht and Punjab's Anti-Sacrilege Law Controversy

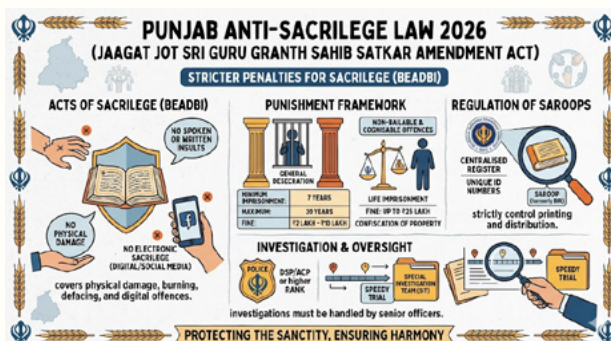
Context:

Recently, The Akal Takht has directed the Aam

Aadmi Party (AAP)-led Punjab Government to remove certain "objectionable" provisions from the Jagat Jyot Sri Guru Granth Sahib Satkar (Amendment) Act, 2026 within one month.

Background:

- The Punjab Legislative Assembly unanimously passed the Amendment Bill on 13 April 2026 (Vaisakhi), and it subsequently received the assent of the Governor.
- The legislation was enacted in response to public outrage over the unresolved 2015 Bargari sacrilege incidents, introducing stringent penalties ranging from 7–20 years' imprisonment for sacrilege and life imprisonment with fines up to ₹25 lakh where the offence is committed as part of a conspiracy to disturb communal harmony.
- The controversy intensified when Akal Takht Jathedar Giani Kuldeep Singh Gargajj summoned all 87 Sikh MLAs and Cabinet ministers across party lines for supporting the legislation without consulting the Shiromani Gurdwara Parbandhak Committee (SGPC) or the wider Khalsa Panth.



What is the Akal Takht?

- The Akal Takht, meaning "Throne of the Timeless One," is the highest temporal (worldly) authority of the Sikhs. Located opposite the Harmandir Sahib (Golden Temple) in Amritsar, it represents Miri (temporal authority), while the Golden Temple symbolizes Piri (spiritual authority).

It is one of the five Takhts of Sikhism.

Historical Evolution:

- The Akal Takht was established in 1606 by Guru Hargobind, the sixth Sikh Guru, following the martyrdom of Guru Arjan Dev under Mughal Emperor Jahangir.
- Guru Hargobind introduced the Miri-Piri doctrine, symbolized by two swords representing temporal and spiritual authority.
- The institution also became a symbol of Sikh resistance against Mughal rule and political oppression.

Role After Guru Gobind Singh:

- After the passing of Guru Gobind Singh in 1708, the Guru Granth Sahib became the eternal Guru, while the Akal Takht emerged as the supreme temporal institution of the Sikh community.
- During periods of Mughal persecution, Sikhs assembled at the Akal Takht during Baisakhi and Diwali in gatherings known as Sarbat Khalsa, where collective decisions (Gurmata) on religious, political, and military matters were taken.

Role in Punjab Politics:

- Before Independence, the Akal Takht served as a centre of Sikh resistance and community governance.
- After 1947, it became closely associated with issues such as the Punjabi Suba Movement, the Anandpur Sahib Resolution, and debates concerning Sikh identity and autonomy.
- Its religious edicts continue to carry considerable influence over Sikh society and Punjab's politics.

Appointment of the Jathedar and Religious Authority:

- The head of the Akal Takht, known as the Jathedar, is appointed by the Shiromani Gurdwara Parbandhak Committee (SGPC) under the Sikh Gurdwaras Act, 1925.
- Although the SGPC is a statutory religious

body, the Shiromani Akali Dal (SAD) has historically exercised significant influence over its administration.

- The Akal Takht issues Hukamnamas and may declare individuals Tankhaiya (religiously guilty), prescribing punishments such as public apology, community service, or religious penance.

Conclusion:

The episode highlights the enduring influence of the Akal Takht in Sikh religious and political life. It also raises important constitutional issues concerning freedom of religion (Articles 25 and 26), legislative competence, and the extent to which the State can regulate matters closely connected with religious practices while maintaining public order and communal harmony.

Teejan Bai: Voice of India's Pandavani Tradition

Context:

Recently, Renowned Pandavani exponent and Padma Vibhushan awardee Teejan Bai passed away at AIIMS Raipur after a prolonged illness. Her demise marks the end of an era in Indian folk music and storytelling.

Who Was Teejan Bai:

- Teejan Bai was one of India's most celebrated folk artists, known for popularising Pandavani, a traditional oral storytelling form based on episodes from the Mahabharata.
- Born in Ganiyari near Bhilai in Chhattisgarh, she rose from a marginalised background to become an internationally recognised cultural figure.
- She is widely regarded as the first woman to perform Pandavani in the Kapalik style, breaking centuries-old gender restrictions in the art form.



About Pandavani:

- Pandavani is one of India's most vibrant folk theatre traditions, originating primarily in Chhattisgarh and also performed in parts of Madhya Pradesh and Odisha.
- It is a unique blend of music, storytelling, and dramatic enactment that brings episodes from the Mahabharata to life through powerful oral narration.

Meaning and Concept:

- The term Pandavani literally means "stories of the Pandavas." The tradition revolves around retelling selected episodes from the Mahabharata, with a strong focus on Bhima, the strongest of the Pandava brothers. The performer is both a singer and storyteller, transforming epic narratives into an engaging stage performance.
- Unlike classical theatre, Pandavani relies entirely on oral tradition, improvisation, and performer-audience interaction.

Performance Style and Structure:

- A Pandavani performance is highly dynamic and visually expressive. The artist uses minimal props but maximum imagination to portray multiple characters and situations.
- **Key elements include:**
 - » A tambura/ektara used as both a musical instrument and symbolic prop
 - » Dramatic gestures and physical movement to enact scenes
 - » Vocal modulation to represent different

characters

- » Direct interaction with the audience to maintain engagement
- » The performer often pauses narration to explain, comment, or add humour, making each performance unique.

Major Styles of Pandavani:

Pandavani is traditionally performed in two main styles:

- **Kapalik Style**
 - » Standing and highly theatrical performance
 - » Includes movement, dance-like gestures, and expressive acting
 - » Popularised globally by artists like Teejan Bai
- **Vedamati Style**
 - » Seated performance, more restrained and narrative-focused
 - » Emphasises storytelling over physical expression
 - » Considered closer to classical oral recitation traditions

Conclusion:

Teejan Bai's life is a powerful testament to how individual courage can reshape cultural history. she transformed Pandavani into a global art form while redefining gender norms in folk performance.

Women's Employment in India's Million-Plus Cities

Why in News?

Recently, The National Statistics Office (NSO) has released its report "Labour Market Dynamics in Million-plus Cities", based on the Periodic Labour Force Survey (PLFS) 2025. For the first time, the report provides labour market estimates for 46 Indian cities with a population exceeding one million (Census 2011).

Key Findings of the Report:

- **Higher Share of Women in Regular Salaried**

Employment:

- » Women in India's million-plus cities are more likely to be employed in stable salaried jobs.
- » 65.1% of employed women in million-plus cities have regular/salaried jobs.
- » This is significantly higher than 50.9% in urban India.
- » Among men in million-plus cities, 56.4% are in regular salaried employment.
- » This indicates that large urban centres provide relatively better access to formal employment for women.

- **Worker Population Ratio (WPR) Remains Low:** Despite better quality employment, women's workforce participation remains low.

Category	Million-plus Cities	Urban India
Male WPR	72.6%	73.0%
Female WPR	25.5%	25.9%

Thus, only about one in four women in major cities is employed.

What is Worker Population Ratio (WPR)?

- The Worker Population Ratio (WPR) is the percentage of employed persons in the total population.
- **Formula:** $WPR = (\text{Number of Employed Persons} \div \text{Total Population}) \times 100$
- **Importance:**
 - » Measures the extent of employment in an economy.
 - » Indicates labour market utilisation.
 - » Helps assess gender disparities in employment.
 - » Used by NSO through the Periodic Labour Force Survey (PLFS).

Difference Between WPR and LFPR:

Worker Population Ratio (WPR)	Labour Force Participation Rate (LFPR)
Includes only employed persons	Includes employed and unemployed persons actively seeking work

Measures actual employment	Measures labour market participation
Always lower than or equal to LFPR	Always equal to or higher than WPR

Gender Pay Gap Continues:

- Although salaries are higher in India's largest cities, women continue to earn substantially less than men.

- **Average Monthly Salary (Regular Jobs)**

Area	Men	Women
Urban India	Rs.27,984	Rs.21,664
Million-plus Cities	Rs.30,707	Rs.23,707

Women earn only about 77.2% of men's salaries in both urban India and million-plus cities.



Cities Showing Near Gender Pay Parity:

- Some cities have either achieved or exceeded gender pay parity in regular salaried employment:
 - » Prayagraj – Women earn 131.2% of men's salaries.
 - » Srinagar – 124%.
 - » Lucknow – 117.1%.
 - » Patna – 111.1%.
 - » Meerut – 105.9%.
 - » Varanasi – 102.4%.
- Among metros, Greater Mumbai performs best, with women earning 98.2% of male salaries.

Employment Pattern in Million-Plus Cities:

- Compared to urban India:
 - » **Regular salaried jobs:** 58.5% (Million-

plus cities) vs 47.6% (Urban India)

- » **Self-employed and casual workers:** 41.4% vs 52.4%

- This reflects greater formalisation of employment in larger cities.

Challenges Highlighted by the Report:

- **High NEET Population:** Among women aged 30–59:
 - » 67% in million-plus cities are NEET (Not in Employment, Education or Training).
 - » Across urban India, the figure is 65%.
- **Primary Reasons for Low Female Participation:**
 - » Childcare responsibilities
 - » Household work
 - » Lack of flexible employment
 - » Social and cultural norms
 - » Safety and mobility concerns

Policy Significance:

- The findings are important for:
 - » SDG 5 (Gender Equality)
 - » SDG 8 (Decent Work and Economic Growth)
 - » Women's economic empowerment
 - » Urban employment planning
 - » Inclusive economic growth
- Higher female labour force participation can significantly boost India's GDP and demographic dividend.

Way Forward:

- Expand affordable childcare facilities.
- Promote flexible and remote work opportunities.
- Improve workplace safety and public transport.
- Strengthen skilling and digital literacy programmes for women.
- Enforce equal pay and anti-discrimination laws.
- Increase women's participation in formal employment through targeted incentives.

Conclusion:

The NSO's latest report presents a mixed picture of women's employment in India's largest cities. While million-plus cities offer greater

access to formal salaried jobs, female workforce participation remains low and wage disparities continue. Addressing structural barriers such as unpaid care work, safety concerns, and unequal opportunities is essential for achieving inclusive urban development and harnessing India's full economic potential.

UDISE+ Report 2025–26

Context:

Recently, the Ministry of Education released the Unified District Information System for Education Plus (UDISE+) Report 2025–26, providing comprehensive data on the status of India's school education sector.

About UDISE+ Report 2025–26:

- The Unified District Information System for Education Plus (UDISE+) is one of the world's largest Education Management Information Systems (EMIS). It covers:
 - » More than 14.8 lakh schools
 - » Around 1.02 crore teachers
 - » Over 26 crore students
- It serves as the primary data repository under the Department of School Education and Literacy and plays a crucial role in evidence-based policymaking, efficient resource allocation, and the implementation of the objectives of the National Education Policy (NEP) 2020.

Key Findings of UDISE+ Report 2025–26

- **Improvement in Teacher Availability and Pupil–Teacher Ratio (PTR)**
 - » The number of teachers increased from 94.83 lakh in 2022–23 to 1.02 crore in 2025–26, reflecting an 8.3% increase.
 - » The Pupil–Teacher Ratio (PTR) has also improved significantly across different stages:
 - Foundational Stage: 10:1
 - Preparatory Stage: 12:1
 - Middle Stage: 17:1
 - Secondary Stage: 21:1

- » These ratios are well below the NEP 2020 benchmark of 30:1, enabling better classroom interaction and greater individual attention for students.
- » Under NEP 2020, India's traditional 10+2 education system has been replaced with the 5+3+3+4 curricular structure, comprising four stages:
 - Foundational Stage: 5 years
 - Preparatory Stage: 3 years
 - Middle Stage: 3 years
 - Secondary Stage: 4 years
- **Improvement in Enrolment, Retention, and Transition Rates**
 - » The report highlights a decline in dropout rates across different stages:
 - Preparatory Stage: 1.8%
 - Middle Stage: 3.6%
 - Secondary Stage: 7.0%
 - » The secondary retention rate improved from 47.2% to 51.9%.
 - » Similarly, the Gross Enrolment Ratio (GER) at the secondary level increased from 68.5% to 71.7%.
 - » The transition rates between different stages have also improved:
 - Foundational to Preparatory: 99.2%
 - Preparatory to Middle: 93.8%
 - Middle to Secondary: 88.3%
- **Rationalisation of Schools**
 - » According to the report:
 - The number of single-teacher schools declined to 1,00,843.
 - The number of zero-enrolment schools reduced to 5,663.
 - » This reflects improved teacher deployment, better utilisation of resources, and enhanced administrative efficiency.
- **Progress in Digital Infrastructure and Inclusive Education**
 - » Digital infrastructure in schools has expanded considerably:
 - Schools with computer access: 69.9%
 - Schools with internet connectivity: 67.4%
 - » Basic infrastructure has also improved significantly:
 - 99.5% of schools have drinking water facilities.
 - 95% of schools have electricity.
 - More than 97% of schools have functional toilets.
 - » The proportion of schools equipped with ramps and handrails has increased to 58.2%, promoting inclusive education for children with disabilities.
 - » In addition:
 - Female teachers now constitute 54.9% of the teaching workforce.
 - Girls' enrolment has reached 48.4%.

Challenges Highlighted:

- Secondary-level dropout remains a major concern due to limited school availability and socio-economic barriers.
- Infrastructure gaps continue to exist in several schools.
- Only 81.9% of schools have playground facilities.
- Just 29.9% of schools have rainwater harvesting systems.
- Many schools still require better accessibility for Children with Special Needs (CWSN) through ramps, accessible toilets, and barrier-free infrastructure.
- Around one lakh schools continue to function with only one teacher, affecting the quality of teaching and learning.

Way Forward

- India needs to:
 - » Expand secondary and senior secondary schools in underserved and remote areas.
 - » Strengthen inclusive education through accessible infrastructure and assistive facilities.
 - » Promote sustainable schools by adopting rainwater harvesting, solar energy, and green infrastructure.
 - » Ensure adequate teacher availability

and further strengthen digital learning by integrating schools with platforms such as the National Digital Library and PM e-VIDYA.

Conclusion:

The UDISE+ Report 2025–26 reflects significant progress in India's school education system through improvements in teacher availability, student retention, digital infrastructure, and basic facilities. However, challenges such as secondary-level dropout, inclusive education, and the persistence of single-teacher schools require focused policy interventions. Strengthening an equitable, technology-driven, and sustainable education system will be essential to achieve the objectives of NEP 2020 and Sustainable Development Goal 4 (SDG 4: Quality Education).

Prambanan Temple: India–Indonesia Cultural Conservation Initiative

Why in News?

Recently, Prime Minister Narendra Modi and Indonesian President Prabowo Subianto jointly launched an international conservation and restoration project for the Prambanan Temple Compounds in Yogyakarta, Indonesia. The initiative reflects the strong civilizational ties between India and Indonesia and highlights cooperation in preserving shared cultural heritage.

About Prambanan Temple:

- Prambanan, locally known as Roro Jonggrang (Loro Jonggrang), is the largest Hindu temple complex in Indonesia and one of the most magnificent examples of Hindu architecture in Southeast Asia.
- It represents the peak of Shaivite temple architecture and showcases the influence of Indian culture, religion, and art in the region.
- **Location:**
 - » Located on the fertile volcanic plains of Java Island, Indonesia.
 - » Situated on the border of the Special Region of Yogyakarta and Central Java.
 - » Lies close to the famous Borobudur Buddhist Temple.



Historical Background:

- Prambanan was built around 850 CE during the reign of the Sanjaya Dynasty, marking the revival of Shaivite Hinduism in Java.
- It was constructed as a grand royal temple and is believed to have been built in response to the nearby Borobudur monument.
- The temple was abandoned in the 11th century due to political changes, earthquakes, and volcanic eruptions from Mount Merapi.
- It was rediscovered during the British administration of Java in the early 19th century. Scientific restoration began in 1918, and UNESCO designated it a World Heritage Site in 1991.

Architectural Features:

- The temple complex follows a three-tier concentric square layout, symbolizing different spiritual realms.
 - » **Outer Zone:** Large courtyard with former wooden structures.
 - » **Middle Zone:** Originally contained 224 Perwara (guardian) temples arranged symmetrically.
 - » **Inner Zone:** Houses 16 principal temples, including the famous Trimurti temples.
- The central 47-metre-high Shiva Temple

is the tallest structure, flanked by temples dedicated to Brahma and Vishnu.

- Opposite them are the Vahana temples, dedicated to Nandi (bull), Hamsa (swan), and Garuda (eagle).
- The temple walls feature exquisite Ramayana and Bhagavata Purana reliefs. Built using dry interlocking stone masonry without mortar, the structure demonstrates advanced ancient engineering.

Significance:

- Prambanan symbolizes the spread of Hinduism and Indian cultural traditions across Southeast Asia.
- It reflects centuries of maritime trade, cultural exchange, and religious interaction between India and Indonesia.
- The restoration project strengthens cultural diplomacy, heritage conservation, archaeological collaboration, and people-to-people ties, while supporting India's Act East Policy and broader engagement with ASEAN.

India's Bad Cholesterol Crisis

Context:

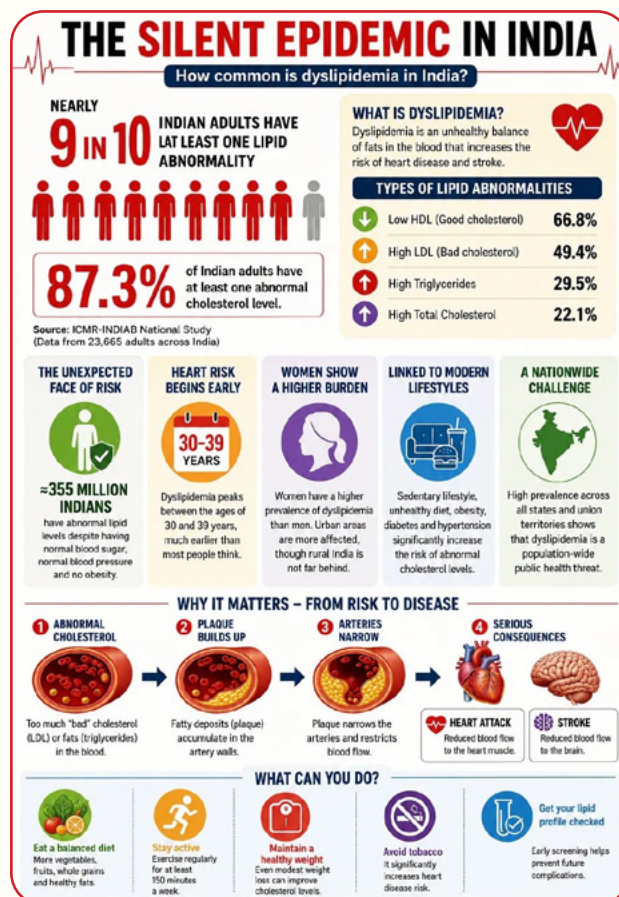
A recent nationwide study conducted under the Indian Council of Medical Research (ICMR)-INDIAB Survey has revealed that 87.3% of Indian adults have at least one abnormal lipid (fat) parameter, highlighting a growing public health crisis.

Key Findings of the Study:

- The study found that low High-Density Lipoprotein (HDL), commonly known as "good cholesterol," is the most prevalent lipid abnormality, affecting nearly two-thirds of adults.
- The study also reported high levels of Low-Density Lipoprotein (LDL) or "bad cholesterol," elevated triglycerides, and increased total cholesterol levels.
- Alarming, around 355 million Indians, who

have normal body weight, blood pressure, and blood sugar levels, are still affected by abnormal lipid levels. This challenges the belief that only individuals suffering from obesity or diabetes are at risk.

- The highest prevalence of lipid abnormalities was observed among adults in the 30-39 years age group, while women showed a slightly higher burden compared to men.



What is Dyslipidemia?

- Dyslipidemia refers to an abnormal concentration of fats (lipids) in the blood. It includes:
 - » High LDL cholesterol.
 - » Low HDL cholesterol.
 - » High triglycerides.
 - » Elevated total cholesterol.
- Since it usually does not show any visible symptoms, it is often referred to as a "silent epidemic".

- Over time, these abnormalities lead to the formation of plaque in arteries (atherosclerosis), significantly increasing the risk of heart attacks, strokes, and other cardiovascular diseases.

Reasons Behind the Rising Burden:

- According to the study, the high prevalence of dyslipidemia in India is due to the combined impact of genetic predisposition and lifestyle-related factors.
- South Asians naturally tend to have lower levels of high-density lipoprotein (HDL) and higher levels of triglycerides.
- This risk is further increased due to:
 - » Carbohydrate-rich diets.
 - » Consumption of ultra-processed foods.
 - » Physical inactivity.
 - » Obesity.
 - » Tobacco use.
 - » Increasing urbanisation.
- The narrowing gap between urban and rural areas indicates that unhealthy lifestyles are now rapidly spreading across rural India as well.

Way Forward:

- These findings highlight the need for timely and universal lipid screening among all individuals, including young adults, rather than restricting testing only to people with diabetes or obesity.
- Public health initiatives should promote:
 - » Balanced diets.
 - » Regular physical activity.
 - » Tobacco cessation.
 - » Reduced consumption of refined carbohydrates and trans fats.
- Strengthening programmes such as the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD), Ayushman Arogya Mandirs and Eat Right India can improve awareness and early detection.

Conclusion:

The ICMR study highlights that dyslipidemia is

no longer limited to older or visibly unhealthy individuals but has become a widespread public health challenge affecting young and apparently healthy adults. Adopting preventive healthcare through early screening, lifestyle modifications, and greater public awareness will be essential to reducing the burden of cardiovascular diseases and achieving the goal of a healthier India.

Global Immunisation System

Context:

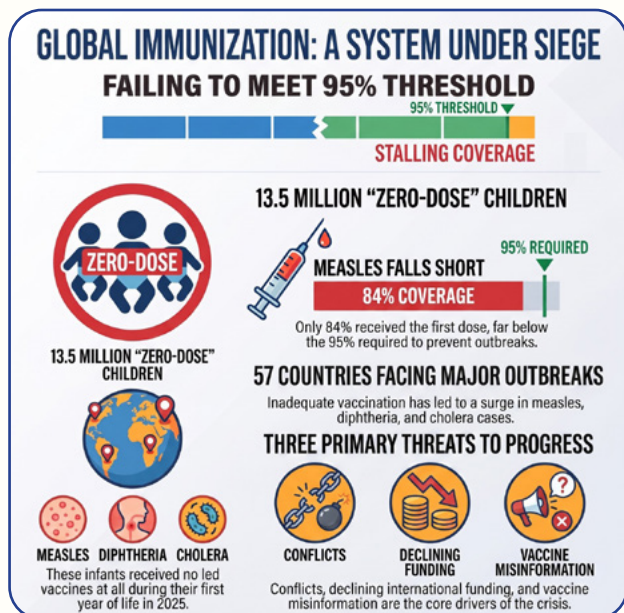
Recently, The United Nations, through reports by the World Health Organization (WHO) and UNICEF, has warned that the global immunisation system is showing signs of weakness due to declining financial support, conflicts, misinformation, and gaps in healthcare delivery.

About Global Immunisation System:

- The global immunisation system is a collaborative network of international organisations, governments, and health alliances working to ensure universal access to life-saving vaccines. It provides guidelines, technical support, and resources to prevent more than 14 major diseases, including measles, polio, and HPV.
- The system is led by organisations such as:
 - » World Health Organization (WHO)
 - » UNICEF
 - » Gavi, the Vaccine Alliance

Key Frameworks:

- Immunisation Agenda 2030 (IA2030):** It is the global strategy aimed at ensuring equitable vaccine access, recovering from vaccination disruptions, and saving more than 50 million lives during this decade.
- Expanded Programme on Immunization (EPI):** Focused on childhood diseases, EPI has expanded to provide recommendations for vaccination against 13 core diseases across different age groups, including adolescents and adults.



Key Findings of the Report:

- 90% of infants globally (nearly 116 million children) received at least one dose of the DTP vaccine in 2025, while 85% completed all three doses.
- Global vaccination coverage improved slightly but remains below the 2019 pre-COVID level.
- Around 13.5 million children were zero-dose children, receiving no vaccines in their first year.
- Nearly 7.3 million infants received the first DTP dose but missed the first measles vaccine dose, indicating gaps in completing vaccination schedules.
- Global measles vaccination coverage remains inadequate:
 - » 84% received the first dose
 - » 77% received the second dose
 - » 95% coverage is required to prevent outbreaks.
- 57 countries reported major measles outbreaks in 2025, along with rising cases of diphtheria and cholera.
- Declining funding and weakened surveillance systems are creating risks for future immunisation programmes.

Reasons behind the Crisis:

- Conflicts and Displacement:** Wars and humanitarian crises disrupt healthcare services, damage infrastructure, and prevent children from accessing vaccination programmes.
- Funding Shortages:** Declining international aid and financial constraints affect vaccine procurement, cold-chain systems, health workers, and disease surveillance.
- Misinformation and Vaccine Hesitancy:** False information regarding vaccine safety has reduced public trust and contributed to vaccination dropouts, particularly in measles immunisation.
- Weak Surveillance Systems:** Reduced disease monitoring capacity has affected the ability to detect outbreaks quickly. Only 18 national immunisation surveys were submitted in 2025 compared to 50 earlier.

India's Immunisation Efforts:

- India has implemented the Universal Immunisation Programme (UIP), one of the world's largest vaccination programmes.
- Initiatives like Mission Indradhanush focus on improving coverage among children and pregnant women in low-immunisation areas. Digital platforms developed during COVID-19 have also strengthened vaccine management.

Conclusion:

The warning by the UN highlights that immunisation progress cannot be taken for granted. While global vaccination coverage has improved, conflicts, financial constraints, and misinformation threaten health security. Strengthening immunisation systems is essential for achieving SDG 3 (Good Health and Well-being) and ensuring equitable access to life-saving vaccines for every child.

Polity & Governance

Public Examinations (Prevention of Unfair Means) Amendment Act, 2026: Institutional Reforms for a Transparent and Credible Examination System

Context:

In India's democratic administrative framework, the integrity, fairness, and credibility of public examinations are of paramount importance for ensuring socio-economic mobility. In recent years, incidents of question paper leaks in examinations such as NEET, UGC-NET, and various state-level recruitment examinations have raised serious concerns regarding the credibility of the examination system. To address this administrative crisis and systemic failures, the Government of India enacted the Public Examinations (Prevention of Unfair Means) Act, 2024. However, in view of the evolving nature of examination-related irregularities and excessive delays in judicial proceedings, the need was felt to further strengthen this statutory framework.

In this context, after extensive deliberations during the Monsoon Session of Parliament, the Public Examinations (Prevention of Unfair Means) Amendment Act, 2026 was passed and received the President's assent on 1 August 2026. The Act introduces far-reaching changes to the existing legal framework by focusing on Fast-track Judicial Mandates and institutional reforms to address corruption within examination authorities.

Major Objectives of the Act:

The Amendment Act has three core objectives:

- **Creating a Deterrent Effect:** To enhance

the quantum of punishment and financial penalties to such an extent that operating examination mafias becomes economically unviable and legally highly risky for organized criminal syndicates.

- **Time-bound Justice:** To eliminate the prolonged delays associated with the conventional judicial system by ensuring that investigation and trial are completed within five months.
- **Institutional Accountability:** To eliminate internal collusion within examination-conducting agencies, make them accountable, and ensure the dismissal of corrupt officials in order to establish a transparent examination system.

Fast-track Judicial Mandates and Statutory Timelines:

- The defining feature of the 2026 Amendment Act is its stringent judicial timeline. The provisions are based on the legal principle that "Justice delayed is justice denied." The following statutory timelines have been made mandatory under the Act:
 - » **Completion of Investigation within Two Months:** Following the registration of any examination-related offence, the police or a Special Task Force (STF) constituted by the Central Government must complete the investigation and file the chargesheet within two months.

However, timely investigations will be effective only if states possess adequate trained investigating officers, digital forensic capabilities, and an efficient prosecution mechanism.

- » **Special Fast-track Courts:** Under the Act, every State and Union Territory is required to notify special sessions courts as Fast-track Courts to conduct day-to-day trials of offences under the Act. This arrangement seeks to expedite judicial proceedings while minimizing unnecessary delays in examination results and recruitment processes.
- » **Disposal of Trial within Three Months:** The Special Court must deliver its final judgment within a maximum period of three months from the filing of the chargesheet.
- » **Expedited Appellate Window:** If any party challenges the decision of the Special Court before the High Court, a Division Bench must dispose of the appeal within three months from the date it is admitted.

Revised Penal Framework: 2024 vs. 2026:

The 2026 Amendment significantly strengthens both financial and custodial punishments compared to the original Act. The changes are summarized below:

Category of Offender	Original Provisions (2024)	Amended Provisions (2026)
Individual Offenders / Candidates (involved in paper leaks, hacking, impersonation)	Imprisonment of 3 to 5 years and a fine up to Rs.10 lakh.	Rigorous imprisonment of 5 to 10 years and a fine up to Rs.50 lakh.

Private Service Providers / Examination Agencies (guilty of negligence or collusion)	Fine up to Rs.1 crore and debarment from examination-related work for four years.	Fine up to Rs.5 crore, recovery of the proportional cost of the examination, and debarment for eight years.
Directors / Senior Management of Agencies	Individual liability in cases of institutional involvement was not clearly defined.	Imprisonment of 5 to 10 years along with substantial personal financial penalties.
Organized Criminal Syndicates / Examination Mafias	Minimum imprisonment of 3 years (up to 10 years) and a fine of Rs.1 crore.	Minimum imprisonment of 7 years (up to 10 years) and a minimum financial penalty of Rs.10 crore.

All offences under the Act continue to remain cognizable, non-bailable, and non-compoundable, implying that the police may arrest an accused without a warrant and that no compromise or settlement is permissible. This stringent penal framework clearly reflects the Government's approach of treating examination-related offences not merely as individual misconduct but as organized economic crimes.

Administrative Reforms:

- **Constitution of the Nandan Nilekani Task Force:** A high-level expert committee has been constituted under the chairmanship of former UIDAI Chairman Nandan Nilekani to undertake technological and procedural restructuring of the examination system.
- **Major Mandates of the Task Force:**
 - » Modernize pre-examination and post-examination security protocols.

- » Implement Artificial Intelligence (AI)-based log auditing and biometric authentication systems.
- » Develop a GPS-tracked logistics network for the transportation of question papers.
- » Establish an end-to-end encrypted question paper management system.

PUBLIC EXAMINATIONS

PREVENTION OF UNFAIR MEANS

AMENDMENT ACT, 2026

WHAT'S REALLY CHANGING?

The Act mandates time-bound justice



**Trial within 3 months
of the charge-sheet**



**Investigation
within 2 months**



**Special Fast-Track
Courts**



Day-to-day hearings



**The Act imposes
stricter penalties on
organised crime**



**Minimum 7 years'
imprisonment**



**Fine up to
₹10 crore**



**Appeals heard by a
two-judge High Court
Bench**

control over examination mafias will remain difficult unless all State Governments fully adopt similar provisions for their respective examinations.

- **Pressure on Judicial Infrastructure:** India's subordinate judiciary already faces a substantial backlog of pending cases. Without additional judges and improved digital infrastructure, disposing of trials within three months will remain a significant practical challenge.
- **Risk of Over-criminalization:** The law must be implemented in a manner that ensures technical errors or inadvertent human mistakes are not treated as organized crimes, thereby preventing the harassment of innocent officials or contractual personnel.
- **Issue of the Digital Divide:** As Computer-Based Tests (CBTs) and AI-enabled examinations become more prevalent in the future, ensuring equal opportunities for all candidates will remain an important policy concern.

Conclusion:

The Public Examinations (Prevention of Unfair Means) Amendment Act, 2026 marks a significant milestone in India's public policy framework. The legislation clearly recognizes that examination malpractice is not merely an administrative failure but an economic and social crime against the nation's youth. However, stringent laws alone cannot completely eliminate question paper leaks. An integrated approach combining legal deterrence, technological safeguards, and administrative integrity is essential. Timely implementation of the recommendations of the Nandan Nilekani Task Force, adoption of a blockchain-based question paper distribution system, and strengthening of forensic investigation wings will be crucial. If implemented effectively, the Act has the potential to reinforce merit-based governance and restore the institutional trust of India's youth in the public examination system.

Challenges:

- **Challenge of Centre-State Coordination:** Education and public examinations are governed by subjects falling under both the Concurrent List and the State List. Although the central legislation provides a model framework, effective nationwide

Short Issues

Temple Management in India

Why in news:

Recent allegations of irregularities in the handling of donations at the Ram Janmabhoomi Temple, Ayodhya, have reignited debate over temple governance in India.

Scale and Nature of Temple Economy in India:

- India has an estimated 10 lakh Hindu temples, ranging from small village shrines to major pilgrimage centres. Large temples such as those in Ayodhya, Varanasi, Tirupati, and Haridwar manage substantial assets including land, gold, cash donations, and endowments.
- Donations often flow through charitable trusts, and registered entities may avail tax exemptions under Section 80G of the Income Tax Act, 1961. However, a significant portion of offerings, especially cash and in-kind donations, remains outside formal accounting systems, raising concerns about transparency.

Traditional Systems of Temple Governance:

- **Hereditary or Family-Based System:** Many temples are managed by hereditary priestly families (pujaris or pandas). Offerings and ritual responsibilities traditionally remain within families, with administrative practices varying across regions.
- **Mahant System:** In this structure, a Mahant or spiritual head exercises complete control over temple administration, assets, and succession. Examples include several mathas and religious institutions founded under monastic traditions.
- **Akhada (Panchayati) System:** Akhadas are organised bodies of ascetics managing temples collectively. Leadership is usually elected or consensus-based, and they regulate rituals, resources, and institutional assets, particularly in Shaiva, Vaishnava, and Udaseen traditions.

Role of the State in Temple Administration:

- State involvement in temple governance has historical roots in colonial laws such as the Religious Endowments Act, 1863, and the Madras Hindu Religious Endowments Act, 1925, which expanded regulatory oversight.
- Post-Independence, several states institutionalised temple management under statutory frameworks. Article 25(2) of the Constitution empowers the State to regulate secular and economic activities associated with religion, forming the constitutional basis for state control over temple administration.

Key Institutional Models:

- **Tamil Nadu:** HR&CE Department manages over 40,000 temples.
- **Andhra Pradesh:** Tirumala Tirupati Devasthanams (TTD) governed by a state-appointed board and CEO.
- **Kerala:** Travancore Devaswom Board oversees major temples including Sabarimala.
- **Uttar Pradesh:** Kashi Vishwanath Temple Board operates under government oversight.

Issues in Temple Governance:

- Key concerns include:
 - » Lack of uniform transparency in donation management.
 - » Weak auditing and accountability mechanisms.
 - » Political influence in appointment of trustees.
 - » Inequitable use of temple revenues.
 - » Tension between religious autonomy and state regulation.

Way Forward:

Reforms may focus on:

- Mandatory digital accounting and real-time disclosure of donations.
- Independent financial audits of large temples.
- Professionalisation of temple administration.

- Clear separation of religious and administrative roles.
- Balanced legal framework ensuring both autonomy and accountability.

Conclusion:

The Ayodhya Trust controversy highlights a larger structural question in India: how to balance religious freedom, institutional autonomy, and public accountability in temple governance. A transparent and professionally managed framework, aligned with constitutional principles, is essential to maintain public trust while preserving the sanctity of religious institutions.

Haryana-Rajasthan Yamuna Water Agreement

Why in News:

Recently, Haryana and Rajasthan have signed a Memorandum of Understanding (MoU) to implement the long-pending 1994 Upper Yamuna River Board (UYRB) Agreement. The project aims to improve drinking water availability, irrigation, groundwater recharge, and strengthen inter-state cooperation in water management.

Historical Background:

- The foundation of the agreement lies in the 1994 Memorandum of Understanding on the Sharing of Utilisable Surface Waters of the Upper Yamuna Basin, signed on 12 May 1994 by Haryana, Uttar Pradesh, Rajasthan, Delhi, and Himachal Pradesh. After the creation of Uttarakhand in 2000, it also became a stakeholder in the Upper Yamuna Basin.
- The agreement sought to distribute the utilisable waters of the Yamuna River among the basin states to meet growing demands for drinking water, irrigation, and other developmental purposes.
- To oversee its implementation, the Upper Yamuna River Board (UYRB) was established

under the Ministry of Jal Shakti to regulate water allocation, monitor river flows, and coordinate among the participating states.



Need for the New Agreement:

- Although the 1994 agreement allocated 10.4% of Yamuna waters to Rajasthan, the state could not fully utilise its share due to the absence of a dedicated water conveyance system. Consequently, a substantial portion of its allocated water remained unutilised for several years.
- To resolve this issue, Haryana and Rajasthan recently signed a fresh MoU to operationalise the 1994 agreement.
- Under this arrangement, Haryana will supply 580 million cubic metres (MCM) of Yamuna water to Rajasthan every year from July to October through approximately 300 km of underground pipelines originating near Hathinikund.
- The project, estimated to cost around Rs.3,900 crore, will be jointly implemented by both states.

Significance of the Agreement:

- The agreement will provide reliable drinking

water to the districts of Sikar, Churu, and Jhunjhunu in Rajasthan, while also benefiting parts of Haryana. It is expected to improve irrigation, recharge groundwater, and reduce wastage of surplus monsoon water. The MoU is also likely to accelerate the construction of the Renuka, Kishau, and Lakhwar multipurpose dam projects, which are essential for increasing storage capacity and ensuring long-term water security in the Yamuna basin.

Constitutional Provisions for Inter-State Water Disputes:

- Article 262 empowers Parliament to enact laws for adjudicating inter-state river water disputes.
- Parliament enacted the Inter-State River Water Disputes Act, 1956, enabling the establishment of water dispute tribunals.
- Entry 17 of the State List gives states jurisdiction over water, subject to Entry 56 of the Union List, which empowers the Union to regulate inter-state rivers in the public interest.

Conclusion:

The Haryana–Rajasthan MoU represents a significant step in cooperative federalism by operationalising the 1994 Upper Yamuna Agreement. Besides ensuring drinking water security for water-scarce regions, it highlights the importance of basin-level planning, infrastructure development, and constitutional mechanisms for the equitable and sustainable management of India's inter-state river waters.

Delhi EV Policy 2026

Why in news:

Recently, The Delhi Government has approved the Delhi EV Policy 2026, marking a significant shift towards clean mobility. Under the policy, no new petrol motorcycles and scooters will be registered after 31 March 2028, while new CNG auto-rickshaw registrations will stop after

December 2026.

Major Provisions of the Delhi EV Policy 2026:

- No registration of new petrol motorcycles and scooters after 31 March 2028.
- Registration of new CNG auto-rickshaws ends after December 2026.
- From April 2028, all newly registered two- and three-wheelers must be electric.
- Target of 30% electrification of Delhi's vehicle fleet by 2030.
- Rs.15,000 crore allocated for EV incentives and charging infrastructure.
- Purchase incentives:
 - » Up to Rs. 30,000 for electric two-wheelers.
 - » Up to Rs. 50,000 for electric three-wheelers.
- Scrappage incentives for old BS-IV and older vehicles.
- Focus on pure Battery Electric Vehicles (BEVs) over strong hybrid vehicles.



Why is the Government Promoting EVs?

- According to the Commission for Air Quality

Management (CAQM), vehicular emissions contribute nearly 23% of Delhi's PM_{2.5} pollution during winter, making transport the city's largest pollution source.

- As two-wheelers constitute around 67% of Delhi's vehicle stock, their electrification can significantly reduce emissions, improve public health, decrease dependence on fossil fuels, and support India's climate commitments.

Role of EVs and Public Transport:

- Electric vehicles produce zero tailpipe emissions, thereby reducing particulate matter (PM_{2.5}), nitrogen oxides (NO_x), carbon monoxide, and greenhouse gases.
- However, EV adoption must be complemented by efficient public transport, including electric buses, metro expansion, cycling infrastructure, and better last-mile connectivity to reduce traffic congestion and private vehicle dependence.

Why is Delhi's Air Pollution Always in News?

- Delhi experiences persistent air pollution due to vehicular emissions, road and construction dust, industrial activities, biomass burning, waste burning, and seasonal stubble burning in neighbouring states.
- Winter conditions such as temperature inversion, low wind speed, and fog trap pollutants close to the surface, causing hazardous air quality.

Geographical Factors and Public Health:

- Located in the Indo-Gangetic Plain, Delhi is a landlocked city surrounded by Haryana and Uttar Pradesh. The absence of sea breeze and poor atmospheric dispersion worsen pollution levels.
- Prolonged exposure to polluted air leads to asthma, chronic respiratory diseases, cardiovascular disorders, and premature deaths, with children and the elderly being the most vulnerable.

Role of Institutions and Technology:

- The Central Pollution Control Board (CPCB) and CAQM monitor air quality and coordinate pollution control measures. Technology such as real-time air quality monitoring,
- satellite-based surveillance, AI-enabled forecasting, and smart traffic management can improve pollution control and policy implementation.

Conclusion:

The Delhi EV Policy 2026 is a landmark initiative towards sustainable urban mobility. While electric mobility can substantially reduce transport-related pollution, lasting improvements in Delhi's air quality require integrated action through cleaner public transport, stronger regulatory enforcement, regional cooperation, technological innovation, and active citizen participation.

VB-G RAM G Act, 2025

Why in news:

Recently, The Viksit Bharat – Guarantee for Rozgar and Aajeevika Mission (Gramin) [VB-G RAM G] Act, 2025 has come into force across India, replacing the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

About the Act:

- The VB-G RAM G Act, 2025 is a comprehensive rural employment legislation aimed at modernising India's wage employment system. It seeks to strengthen livelihood security, create durable rural assets, enhance transparency through digital governance, and promote climate-resilient development.
- The Act marks a shift from welfare-oriented employment generation to productivity-driven rural development, aligning with the vision of Viksit Bharat @2047 under the guiding principle of "Rozgar Bhi, Samman Bhi."



Key Features:

- **Enhanced Employment Guarantee:** Increased from 100 to 125 days of guaranteed wage employment per eligible rural household annually.
- **Revised Wage Structure:** Minimum notified wage fixed at Rs.300 per day, with the national average increasing to Rs.327.4 per day.
- **Digital Governance:** Biometric authentication, geo-tagging, GIS-based planning, National Mobile Monitoring System (NMMS), real-time dashboards, and Direct Benefit Transfer (DBT) for transparency.
- **Decentralised Planning:** Gram Panchayats prepare Viksit Gram Panchayat Plans (VGPPs) through Gram Sabha participation.
- **Timely Wage Payments:** Wages to be paid within 15 days, with 0.05% daily compensation for delays.
- **Worker Welfare:** Mandatory provision of drinking water, shade, first aid, and childcare facilities at worksites.
- **Transparency Measures:** Mandatory social audits and mobile-based monitoring.
- **Seasonal Flexibility:** States may suspend works for up to 60 days during peak agricultural seasons.

Revised Wage Rates Across States:

- The Government has revised wage rates, ensuring that no notified daily wage is below Rs.300, with the national average wage

increasing from Rs.298.8 to Rs.327.4 per day, representing an increase of over 10%.

- The revised wage structure significantly benefits States that earlier paid below Rs.300 under MGNREGA.
- Twenty-one States and Union Territories have had their wages increased to at least Rs.300 per day. Major increases include Uttar Pradesh (+Rs.48), Bihar (+Rs.45), Madhya Pradesh (+Rs.39), and Rajasthan (+Rs.19).
- Other States recording wage hikes exceeding 15% include Arunachal Pradesh, Nagaland, Himachal Pradesh, Uttarakhand, Jharkhand, Assam, Tripura, Sikkim, and West Bengal.
- States already paying above Rs.300 witnessed relatively smaller increases. Haryana continues to have the highest wage rate at Rs.409, followed by Goa (Rs.406) and Kerala (Rs.401).

Benefits of the act:

- The Act strengthens livelihood security through higher employment and wages, while promoting the creation of durable infrastructure such as irrigation systems, rural roads, and water conservation structures.
- It supports climate resilience, improves transparency through digital governance, empowers women by providing childcare and better workplace facilities, and strengthens local governance through Gram Panchayat-led planning.

Conclusion:

The VB-G RAM G Act, 2025 marks a paradigm shift in rural employment policy by combining enhanced employment guarantees with higher wages, digital transparency, and sustainable rural development. Its effective implementation through adequate funding, strong Centre-State coordination, and empowered Panchayati Raj Institutions will be crucial in transforming rural livelihoods and achieving inclusive growth.

NCB Annual Report 2025 & Vision Document 2026–29

Why in News?

Recently, the Union Home Minister and Minister of Cooperation Amit Shah released the NCB Annual Report 2025 and the Vision Document on Drug Control (2026–2029) under the NCORD framework.

Key Highlights of NCB Annual Report 2025:

- **Record Enforcement Actions**
 - » India witnessed its highest narcotics-related arrests in five years (2021–2025).
 - » 1,83,675 persons arrested in 2025, compared to 1,22,224 in 2024.
 - » 810 preventive detention orders issued (2024: 531).
 - » This reflects stronger intelligence-based enforcement and coordination among agencies.
- **Rise of Digital Drug Trafficking**
 - » Encrypted messaging platforms such as Telegram, WhatsApp, and Signal are increasingly used for drug trafficking.
 - » Telegram has emerged as a key platform for drug advertising and coordination.
 - » This indicates a shift from physical networks to cyber-enabled narcotics trade.
- **Myanmar as a Major Opium Source**
 - » Myanmar has overtaken Afghanistan as the leading source of illicit opium.
 - » A major trafficking corridor connects Myanmar with Northeast India.
 - » The drug trade is linked with arms smuggling and insurgent financing.
 - » This raises serious internal security concerns for India.
- **Large-Scale Destruction of Illicit Cultivation**
 - » Poppy cultivation destroyed: 42,282 acres (2025) vs 22,512 acres (2024).
 - » Cannabis cultivation destroyed: 38,193

acres vs 34,018 acres.

- » This shows intensified supply-side disruption efforts.

▪ Emerging Synthetic Drug Threat

- » Methamphetamine and amphetamine dominate global seizures.
- » New threat: nitazenes, synthetic opioids up to 500 times stronger than heroin.
- » Production hubs include Myanmar, Mexico, Afghanistan, and Europe.

About Vision Document on Drug Control (2026–2029):

- The document aims for a “Nasha Mukta Bharat” aligned with Viksit Bharat 2047 and is built on four pillars:
 - » **Enforcement, Intelligence & Operations:** Targeted action to dismantle drug trafficking networks.
 - » **Precursor & Synthetic Drug Control:** Stopping drugs at the production and chemical stage.
 - » **Demand Reduction & Harm Control:** Awareness, rehabilitation, and community-based prevention.
 - » **Capacity Building & Coordination:** Strengthening institutions, data systems, and inter-agency cooperation.



Golden Triangle and Golden Crescent:

- **Golden Crescent:** Iran–Afghanistan–Pakistan region, major opium source.
- **Golden Triangle:** Myanmar–Thailand–Laos region, major drug production hub.
- India lies between these two regions, making it vulnerable to drug inflows and transit trafficking. These zones are sometimes referred to as the “Death Crescent” and “Death Triangle” due to their global narcotics impact.

Legal Framework for Drug Control in India:

- **Constitutional Basis:** India’s drug policy is rooted in Article 47, which directs the State to prohibit intoxicating substances except for medical use and improve public health.
- **NDPS Act, 1985:** The Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985 is the primary law. It:
 - » Prohibits cultivation, production, sale, possession, and transport of narcotics
 - » Allows regulated medical and scientific use
 - » Implements UN drug conventions

Classification:

- **Narcotic drugs:** opium, coca, cannabis derivatives
- **Psychotropic substances:** LSD, MDMA, sedatives
- **Controlled substances:** precursor chemicals
- **Cannabis exception:** Cannabis is regulated by state laws, not NDPS Act.

Penalties and Bail:

- Punishment depends on quantity:
 - » **Small:** up to 1 year
 - » **Intermediate:** up to 10 years
 - » **Commercial:** 10–20 years + heavy fine; repeat offence may attract death penalty
- Bail is highly restricted for commercial quantities.

Conclusion:

The NCB Annual Report 2025 highlights the evolving nature of India’s drug challenge from

traditional smuggling routes to digital trafficking networks and synthetic drugs. The Vision Document 2026–29 provides a comprehensive roadmap combining enforcement, prevention, and rehabilitation to achieve a drug-free India.

Employees' Provident Fund (EPF) Scheme, 2026

Why in News?

The Ministry of Labour and Employment has notified the Employees' Provident Funds (EPF) Scheme, 2026, replacing the Employees' Provident Funds Scheme, 1952, with effect from 29 June 2026. The new scheme has been framed under the Code on Social Security, 2020 and aims to modernize India's contributory social security system through simplified rules, enhanced digital governance, and clearer compliance provisions.

What is the Employees' Provident Fund (EPF) Scheme, 2026?

- The EPF Scheme, 2026 is the updated framework governing provident fund contributions, withdrawals, and administration for employees covered under the Employees' Provident Fund Organisation (EPFO).
- While retaining the core objective of providing retirement income security, the scheme simplifies procedures, strengthens employer accountability, and aligns provident fund administration with the provisions of the Code on Social Security, 2020.
- Existing EPF subscribers under the 1952 Scheme will automatically continue as members without any requirement for fresh registration.

Key Features of the EPF Scheme, 2026:

- **Contribution Framework**
 - » Mandatory EPF contribution remains 12% of wages each by the employer and employee (10% for certain notified establishments).

- » Mandatory contributions are restricted to the statutory wage ceiling of Rs.15,000 per month, resulting in a compulsory contribution of Rs.1,800 per month.
- » Employees earning above the wage ceiling may contribute voluntarily on higher wages, while employers may choose to make matching voluntary contributions through mutual agreement.

New EPFO Schemes Notified

-  **Employees' Provident Fund Scheme, 2026**
Replacing Employees' Provident Fund Scheme, 1952
-  **Employees' Pension Scheme, 2026**
Replacing Employees' Pension Scheme, 1995
-  **Employees' Deposit Linked Insurance Scheme, 2026**
Replacing Employees' Deposit Linked Insurance Scheme, 1976

- **Simplified Partial Withdrawals:** The earlier multiple withdrawal categories have been consolidated into three broad heads:
 - » Essential Needs – illness, education and marriage.
 - » Housing Needs – purchase or construction of a house.
 - » Special Circumstances – notified exceptional situations.
 - » To preserve retirement savings, members must generally maintain a minimum balance of 25% of their accumulated provident fund.
 - » Consequently, only 75% of the eligible balance can ordinarily be withdrawn, while the remaining balance is retained for retirement security. Full withdrawal is permitted after one year of unemployment, subject to prescribed conditions.
- **Employer Responsibility:**
 - » The Scheme explicitly provides that the principal employer remains responsible for depositing both the employer's and employee's EPF contributions,

including administrative charges, even where workers are employed through contractors who are not independently registered under EPFO.

- **Digital-First Administration:** The Scheme formalizes digital governance through:
 - » Aadhaar and PAN-linked KYC
 - » Electronic filings and returns
 - » Online EPF accounts and e-passbooks
 - » Unified digital compliance under the EPFO portal

Five things employees should know about the new EPF Scheme, 2026



-  **1** Your existing PF membership continues automatically.
-  **2** Mandatory PF contributions remain at 12% of wages subject to wage ceiling.
-  **3** You can voluntarily contribute beyond the statutory requirement to build higher retirement savings.
-  **4** You can later reduce or discontinue such additional voluntary contributions if your financial priorities change.
-  **5** Partial withdrawals allowed for important needs such as illness, education, marriage and housing.

Code on Social Security, 2020:

- The Code on Social Security, 2020 consolidates nine central labour laws relating to social security into a single

comprehensive framework.

▪ **Major Features:**

- » Universal social security coverage
- » EPF, ESI, gratuity and maternity benefits under one Code
- » Recognition of gig workers and platform workers
- » Social Security Fund for gig and unorganised workers
- » Pro-rata gratuity for fixed-term employees
- » Electronic compliance and simplified labour administration

Significance of the EPF Scheme, 2026:

- The new Scheme modernizes India's provident fund system by simplifying withdrawal rules, clarifying contribution obligations, strengthening employer accountability, and promoting digital governance. It also improves regulatory certainty for employers while ensuring better retirement protection for employees.
- By operationalising key provisions of the Code on Social Security, 2020, the Scheme represents an important step towards creating a modern, transparent, and inclusive social security architecture capable of addressing the needs of India's evolving labour market.

Conclusion:

By effectively implementing the key provisions of the Code on Social Security, 2020, the EPF Scheme, 2026 represents a significant step towards establishing a modern, transparent, and inclusive social security system in India. This scheme will not only provide enhanced social security to employees in alignment with the needs of the evolving labor market but also strengthen the digital and responsive administrative framework.

Delhi High Court's judgment on the Right to be Forgotten

Why in News?

The Delhi High Court, in *Laksh Vir Singh Yadav v. Union of India* (2026), laid down a landmark framework governing the Right to be Forgotten (RTBF) in India. The Court held that the right flows from Article 21 of the Constitution, balancing an individual's right to privacy with the principle of open justice.

What is the Right to be Forgotten?

- The Right to be Forgotten (RTBF) enables individuals to seek the removal, erasure, or de-indexing of their personal information from digital platforms and search engines when its continued online availability causes disproportionate harm and no longer serves a legitimate public interest.
- It is particularly relevant in cases involving acquittals, false accusations, matrimonial disputes, or incidental mentions in legal proceedings.

Background:

- The concept gained international recognition in 2014, when the European Court of Justice ruled in favour of *Mario Costeja González*, directing Google to remove links to outdated personal information.
- The right was later codified under Article 17 of the European Union's General Data Protection Regulation (GDPR).
- In India, its constitutional foundation was laid by the *K.S. Puttaswamy v. Union of India* (2017) judgment, which recognised privacy, including informational privacy, as a fundamental right under Article 21.

Delhi High Court Judgment:

- In *Laksh Vir Singh Yadav v. Union of India* (2026), the Court held that the Right to be Forgotten is an integral part of the right to dignity and informational privacy under Article 21. It clarified that the right may also operate against private digital platforms and search engines.
- The Court introduced a Structured Proportionality Test, requiring authorities

to balance the individual's privacy and dignity against the public's right to know, the principle of open justice, and legitimate public interest before granting relief.

Need for the Right to be Forgotten:

- The Court observed that digital permanence can unfairly damage the reputation of individuals long after acquittal or closure of legal proceedings.
- Victims of false allegations, persons involved in private matrimonial disputes, and individuals incidentally mentioned in court cases often continue to face social stigma due to searchable online records.
- RTBF seeks to protect such individuals from perpetual reputational harm while preserving transparency where genuine public interest exists.

Way Forward:

- The government should operationalise the Digital Personal Data Protection (DPDP) Act, 2023 by notifying its rules and establishing the Data Protection Board to efficiently handle erasure requests.
- A tiered grievance mechanism involving digital platforms, the Data Protection Board, and judicial review can ensure speedy and balanced decision-making. Search engines and legal databases should also update records to reflect acquittals or subsequent developments rather than merely retaining outdated information.
- A definitive ruling by the Supreme Court will be essential to establish a uniform national standard balancing privacy with transparency.

Conclusion:

The judgment marks a significant evolution of India's privacy jurisprudence by recognising that individuals should not remain indefinitely burdened by outdated digital records. By adopting a balanced approach based on proportionality instead of blanket deletion, the Court has attempted to reconcile privacy, dignity, freedom of expression, and the principle

of open justice in the digital age.

Water Budget for Every Village & Water Security Plan

Context:

Climate change, erratic monsoons, excessive groundwater extraction, and rising water demand have made water security a major challenge in rural India. To address this issue, the government has launched an initiative to prepare Water Budgets and Water Security Plans at the Gram Panchayat level. Recently, the Ministry of Panchayati Raj launched a national-level Master Trainers Training Programme to help Gram Panchayats prepare these plans.

What is a Water Budget?

- A Water Budget is a scientific assessment of the available water resources in a village and its total water demand means, a water budget estimates how much water comes into a village, how much is used and how much can be conserved.
- It includes:
 - » Quantity of rainfall received
 - » Availability of groundwater and surface water
 - » Domestic water requirements
 - » Water consumption for agriculture and livestock
 - » Scope for water conservation and groundwater recharge

Why is a Water Budget Needed?

- **Addressing the Groundwater Crisis:** Groundwater levels are declining in many rural areas due to over-extraction, unplanned irrigation, and increasing population, putting severe pressure on water resources.
- **Promoting Efficient Water Use:** A water budget enables villages to plan water use according to actual needs, preventing unnecessary extraction and ensuring sustainable management.

- **Improving Agricultural Water Management:** Since agriculture is the largest consumer of water in India, water budgeting promotes:
 - » Low water-intensive crops
 - » Micro-irrigation techniques
 - » Better crop planning
- **Strengthening Water Conservation:** It provides a scientific basis for measures such as:
 - » Revival of ponds
 - » Rainwater harvesting
 - » Check dams
 - » Groundwater recharge

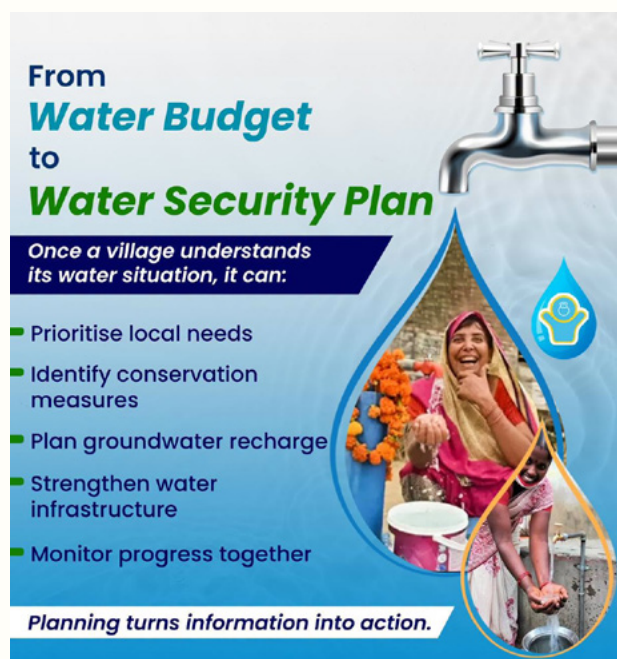
About Master Trainers Training Programme:

- The initiative aims to create a national pool of Master Trainers at the State, District, and Block levels.
- These trainers will assist Gram Panchayats in preparing Technically sound, Evidence-based, Community-driven, Water Security Plans.
- The programme seeks to strengthen the water management capacity of Gram Panchayats and ensure long-term water security.
- On this occasion, the Ministry also released the "Jal-Paryapt Panchayat Training Manual (Phase I & II)," which provides practical guidance for preparing participatory, scientific, and climate-resilient water security plans.

Key Features of the Training Programme:

- **Scientific Water Management**
 - » Preparation of water budgets
 - » Assessment of water resources and demand
 - » Identification of water conservation measures
- **Technological Innovations**
 - » Data-driven planning
 - » Monitoring of water resources
 - » Climate-resilient water management strategies
- **Community-Based Planning**
 - » Ensuring community participation

- » Preparing inclusive water security plans
- » Developing village-level implementation strategies



Phase I of the Programme:

- In the first phase of this initiative, 100 districts, 100 blocks, and 1,000 Gram Panchayats across 10 states will be included.
- These states include Bihar, Chhattisgarh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, and West Bengal.
- The first batch includes participants from Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, and West Bengal. These Master Trainers will support Panchayats in preparing Water Security Plans during the upcoming People's Plan Campaign (PPC).

Conclusion:

The initiative to prepare a Water Budget for every village is a significant step towards establishing a decentralised, scientific, and participatory water management system in India. It will empower Gram Panchayats to play a proactive role in water conservation and management while contributing to the vision of a water-secure, climate-resilient, and sustainable rural

India.

Cabinet Approves Semicon Mission 2.0

Context:

Recently, the Cabinet Committee on Economic Affairs (CCEA) approved Rs.1.27 lakh crore for Semicon Mission 2.0, Rs.62,500 crore for the Mobile Phone Manufacturing Scheme (MPMS), Rs.25,400 crore for two highway projects in Varanasi, and the establishment of 8–9 gas-based urea plants under the National Investment Policy for Urea (NIPU-2026).

About India Semiconductor Mission:

- The India Semiconductor Mission (Semicon Mission 2.0) aims to develop a complete semiconductor manufacturing ecosystem in the country and reduce dependence on imports.
- **Objectives:**
 - » Promote indigenous chip design and manufacturing.
 - » Develop a robust semiconductor supply chain.
 - » Strengthen India's position in the global electronics value chain.
 - » Support emerging technologies such as Artificial Intelligence (AI), 5G, Electric Vehicles (EVs), and advanced electronics.

Key Features of Semicon Mission 2.0

- **Total Outlay:** Rs.1.27 lakh crore.
- Expected to attract Rs.4 lakh crore in investments.
- Estimated semiconductor production worth Rs.2 lakh crore.
- Incentives for suppliers of raw materials, gases, and minerals.
- Strong focus on indigenous chip design and manufacturing.
- Aims to achieve self-reliance in the semiconductor sector.
- The first phase had an allocation of

Rs.76,000 crore, under which 12 projects worth Rs.1.64 lakh crore were approved.

About Mobile Phone Manufacturing Scheme (MPMS):

- The Cabinet approved the ₹62,500 crore Mobile Phone Manufacturing Scheme (MPMS).
- **Key Features**
 - » Incentives of 2.25%–5% on eligible mobile phone sales.
 - » 1.5% additional incentive for domestic sourcing of key components.
 - » 3% additional incentive for investment in product design and Research & Development (R&D).
 - » Expected mobile phone production worth Rs.39 lakh crore.
 - » Likely to generate around 60,000 direct jobs.



Highway Infrastructure Projects:

- The Cabinet approved two National Highway projects worth Rs.25,400 crore under the Hybrid Annuity Model (HAM).
- **Key Highlights:**
 - » Connectivity between NH-19, NH-31, and the Varanasi Ring Road.
 - » Part of the PM Gati Shakti National Master Plan.
 - » Improved connectivity to:
 - Lal Bahadur Shastri Airport
 - Kashi Vishwanath Temple
 - Banaras Hindu University (BHU)
 - Ramnagar Inland Waterways Port
 - Namo Ghat

- » The projects will reduce travel time and improve logistics efficiency and tourism.

About National Investment Policy for Urea (NIPU-2026)

- Under NIPU-2026, 8–9 gas-based urea plants will be established with an additional production capacity of 10 million tonnes.
- **Key Features:**
 - » Separation of fixed and variable costs.
 - » Return on Equity (RoE) between 12% and 16%.
 - » Measures to reduce foreign exchange risks.
 - » Uniform incentives for public, private, and cooperative sector projects.
 - » The policy aims to reduce India's dependence on imported urea.

Significance of the Cabinet Decisions:

- **Boost to Manufacturing:** Semicon Mission 2.0 and MPMS will promote domestic manufacturing and technological innovation.
- **Economic Growth:** The initiatives will increase investment, employment, exports, and foreign investment.
- **Infrastructure Development:** The highway projects will improve connectivity, logistics efficiency, and tourism.
- **Agricultural Self-Reliance:** NIPU-2026 will enhance domestic fertiliser production and reduce dependence on imports.

Conclusion:

The approval of Semicon Mission 2.0, MPMS, highway projects, and NIPU-2026 will strengthen manufacturing, infrastructure, and agricultural self-reliance under the vision of Atmanirbhar Bharat. These initiatives are expected to enhance technological capabilities, create employment, improve logistics, and support India's long-term economic growth.

Trial in Absentia under BNSS

Why in News?

Recently, a special NIA court in Jammu has approved the process of conducting trial in absentia against banned terrorist organisation Lashkar-e-Taiba (LeT) chief Hafiz Saeed in the Pahalgam terror attack case.

Background of the Case:

- The NIA has filed a Supplementary Chargesheet, naming Hafiz Saeed both in his individual capacity and as the chief of Lashkar-e-Taiba (LeT) and its proxy organisation, The Resistance Front (TRF).
- Hafiz Saeed is currently hiding in Pakistan and it is not possible to bring him to India immediately. With the issuance of this non-bailable warrant, the way is now clear for Hafiz Saeed to be declared a proclaimed offender or a fugitive.
- He has been charged under the following laws:
 - » Bharatiya Nyaya Sanhita (BNS), 2023
 - » Unlawful Activities (Prevention) Act, 1967 (UAPA)
 - » Provisions related to waging war against India and cross-border criminal conspiracy.
- Since Saeed is unlikely to appear before an Indian court, the National Investigation Agency (NIA) is expected to seek a trial in absentia under Section 356 of the Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023.

What is Trial in Absentia?

- A trial in absentia refers to a criminal trial where judicial proceedings are conducted without the physical presence of the accused.
- According to Section 356 of the Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023, if a person has been declared a Proclaimed Offender, has absconded to evade trial, and there is no immediate possibility of his arrest, the court may proceed with the inquiry, trial, and pronouncement of judgment in his absence after recording written reasons.
- In such cases, the absence of the accused

is treated as a waiver of the right to remain present during the proceedings.

Who Does This Provision Apply To?

- This provision applies only to persons declared as Proclaimed Offenders under Section 84 of the BNSS.
- It is further restricted to serious offences that carry punishment of:
 - » Imprisonment of 10 years or more
 - » Life imprisonment
 - » Death penalty
- This ensures that the provision is used only in cases involving serious criminal offences.



Procedural Safeguards:

Section 356 provides several safeguards to protect the right to a fair trial, including:

- Two arrest warrants must be issued with an interval of at least 30 days between them.

- A notice must be published in newspapers informing the accused to appear before the court.
- The notice must be displayed at the accused's last known residential address.
- A relative or friend of the accused must also be informed.
- The trial can begin only after 90 days from the date of framing of charges.
- If the accused does not have legal representation, the court must appoint a State-funded Defence Counsel.
- Statements of witnesses may be recorded through audio-visual means and preserved for future review.

Significance

- It helps prevent judicial delays caused by absconding accused persons.
- It strengthens India's legal response against cross-border terrorism.
- It improves judicial efficiency by allowing cases to proceed despite the absence of fugitives.
- It creates a balance between national security concerns and the principles of a fair judicial process.
- The Hafiz Saeed case is considered one of the first major tests of this new legal provision introduced under the BNSS.

MP Assembly Passes Uniform Civil Code (UCC) Bill, 2026

Context:

Recently, The Madhya Pradesh Legislative Assembly passed the Madhya Pradesh Uniform Civil Code (UCC) Bill, 2026 on 21 July 2026 during the Monsoon Session. It seeks to establish a common civil law framework in the State while exempting Scheduled Tribes from its provisions.

Key Provisions of the Bill:

The Bill introduces significant reforms in personal laws by:

- Criminalising polygamy and Nikah Halala.
- Making registration of live-in relationships mandatory.
- Providing a uniform legal framework for matters relating to marriage, divorce, inheritance, succession, adoption, and maintenance.
- Exempting Scheduled Tribe (ST) communities to preserve their customary laws and cultural practices.
- The legislation was drafted by a six-member expert committee headed by Justice (Retd.) Ranjana Desai, former Judge of the Supreme Court.

What is the Uniform Civil Code (UCC)?

- The Uniform Civil Code (UCC) refers to a common set of secular civil laws governing matters such as marriage, divorce, maintenance, adoption, guardianship, and inheritance for all citizens, irrespective of religion. It aims to replace religion-based personal laws with a uniform legal framework.
- The constitutional basis of the UCC lies in Article 44 of the Directive Principles of State Policy (DPSPs), which directs the State to endeavour to secure a Uniform Civil Code throughout the territory of India.

Current Status of UCC in India:

- Uttarakhand became the first Indian state after Independence to pass and implement a Uniform Civil Code. The Act was enacted in 2024 and came into force in January 2025.
- Goa continues to follow the Portuguese Civil Code of 1867, making it the only state with a long-standing common civil code.
- Madhya Pradesh has now passed the UCC Bill, 2026, which will come into effect after notification.
- Assam and Gujarat also passed Uniform Civil Code Bills in their respective Legislative Assemblies in 2026, indicating a growing trend of state-level civil law reforms.

Significance:

- The Madhya Pradesh UCC Bill marks

another important step in the ongoing national debate on a Uniform Civil Code.

- Supporters view it as a measure to promote gender equality, legal uniformity, and constitutional secularism, while critics stress the need to balance these objectives with religious freedom, cultural diversity, and federal principles.
- The legislation is likely to contribute significantly to future legal and constitutional discussions on implementing Article 44 across India.

Prevention of Insults to National Honour (Amendment) Bill, 2026

Context:

Recently, the Lok Sabha and Rajya Sabha passed the Prevention of Insults to National Honour (Amendment) Bill, 2026. The Bill seeks to amend the Prevention of Insults to National Honour Act, 1971, by extending penal provisions to acts that intentionally obstruct or show disrespect during the singing of Vande Mataram, India's National Song. The Bill will now be taken up by the Lok Sabha.

Background:

- The Prevention of Insults to National Honour Act, 1971 was enacted to safeguard the dignity of India's national symbols, including the National Flag, the Constitution of India, and the National Anthem.
- While the Act penalizes disrespect towards these national symbols, it did not specifically cover acts obstructing or insulting the National Song, Vande Mataram. The 2026 Amendment seeks to bridge this gap by bringing Vande Mataram within the ambit of the law.

Key Provisions of the Amendment Bill:

- **Extension of Penal Provisions:** The Bill extends punishment for intentionally causing obstruction or showing disrespect

during the singing of Vande Mataram.

- **Amendment to the 1971 Act:** It broadens the scope of the Prevention of Insults to National Honour Act, 1971, to include protection for the National Song.
- **Objective:** To preserve the dignity of national symbols and strengthen respect for India's cultural and historical heritage.

About Vande Mataram:

- **Composer:** Bankim Chandra Chatterjee
- **Year of Composition:** 1875
- **Published In:** Anandamath (1882)
- **First Public Rendition:** Sung by Rabindranath Tagore at the 1896 Indian National Congress Session in Calcutta.
- **Constitutional Recognition:** On 24 January 1950, the Constituent Assembly adopted the first two stanzas of Vande Mataram as India's National Song.
- The song personifies Mother India as a symbol of strength, prosperity, and devotion and played a crucial role in inspiring the freedom movement.

Role in India's Freedom Struggle:

- Vande Mataram emerged as one of the most powerful slogans during India's struggle for independence.
- It became the rallying cry during the Swadeshi Movement (1905) against the Partition of Bengal.
- Freedom fighters used it as a symbol of national unity, patriotism, and resistance against colonial rule.
- It inspired generations of Indians to participate in the national movement.

National Song vs National Anthem:

Feature	National Song (Vande Mataram)	National Anthem (Jana Gana Mana)
	Bankim Chandra Chatterjee	Rabindranath Tagore
Status	National Song	National Anthem

Adopted	24 January 1950 (First two stanzas)	24 January 1950
Legal	Proposed under the 2026 Amendment	Protected under the Prevention of Insults to National Honour Act, 1971
Constitutional Position	Recognised by the Constituent Assembly but not specifically mentioned in the Constitution	Recognised as the National Anthem and protected through statutory law

Significance of the Amendment:

- **Strengthens National Symbols:** Expands legal protection to India's National Song.
- **Preserves Cultural Heritage:** Recognizes the historical role of Vande Mataram in India's freedom struggle.
- **Promotes Constitutional Values:** Encourages respect for national symbols that embody India's unity and identity.
- **Addresses Legal Gap:** Brings the National Song within the statutory framework governing respect for national honours.



International Relations

From Hormuz to Malacca: Rethinking India's Maritime Strategy

Context:

Recently, Prime Minister Narendra Modi's visit to Indonesia and the renewed discussions on the development of Sabang Port have once again highlighted the importance of India's maritime strategy. The Hormuz crisis has made it clear that India's dependence on strategic maritime chokepoints such as the Strait of Hormuz and the Strait of Malacca for its energy supplies and trade is closely linked to its national security. In this context, strengthening defence and maritime cooperation with Indonesia, along with the development of Sabang Port and the Great Nicobar Project, is being viewed as a significant step towards enhancing India's strategic presence and maritime security in the Indian Ocean Region (IOR).

Background:

- India's strategic location at the centre of the Indian Ocean Region gives it immense maritime significance. With a coastline of more than 11,098 km, India depends heavily on the seas for its economic prosperity. Nearly 75% of India's trade by value and about 97% by volume is carried through maritime routes, while almost 85% of its crude oil requirement is met through imports.
- Therefore, secure Sea Lines of Communication (SLOCs) are essential not only for trade but also for India's energy

security, economic growth, and strategic autonomy. The recent developments around Hormuz and Malacca have once again demonstrated that India's maritime strategy must go beyond coastal defence and focus on safeguarding critical sea routes through diplomacy, naval capability, and regional cooperation.



Why are Maritime Chokepoints Important for India?

- Maritime chokepoints are narrow sea passages through which a large share of global trade and energy supplies flows. Any

disruption at these locations can severely affect international commerce and national economies.

- The Indian Ocean is connected to the rest of the world through several strategic chokepoints, including the Strait of Hormuz, Strait of Malacca, Bab-el-Mandeb, Suez Canal and the Cape of Good Hope. Since India's economy is deeply integrated with global trade networks, uninterrupted access to these waterways is vital for ensuring energy supplies, exports, imports, and overall economic stability.

The Strait of Hormuz: India's Energy Lifeline

- The Strait of Hormuz, located between Iran and Oman, is one of the world's most critical maritime chokepoints. More than one-fifth of India's crude oil imports and nearly half of its LPG imports pass through this narrow waterway. 2026 Hormuz crisis, arising from renewed tensions between the United States and Iran, exposed the vulnerability of countries dependent on this route.
- Even though international law guarantees freedom of navigation, geopolitical conflicts can disrupt shipping and increase transportation costs. For India, the crisis highlighted that while it depends heavily on Hormuz for its energy needs, it has limited capacity to influence developments in the region. This makes diversification of energy sources and maritime partnerships an urgent strategic necessity.

The Strait of Malacca and India's Indo-Pacific Strategy:

- While Hormuz is crucial for India's energy security, the Strait of Malacca is equally important for its trade with East and Southeast Asia. This narrow waterway, connecting the Indian Ocean to the Pacific Ocean, is one of the busiest shipping routes in the world. A significant share of India's trade with ASEAN countries, Japan, South Korea, and the wider Indo-Pacific passes

through this strait.

- In this context, India's growing strategic partnership with Indonesia assumes greater importance. The proposed development of Sabang Port, located only about 160 km from the Great Nicobar Project, can provide India and Indonesia with a strategic presence near the western entrance of the Strait of Malacca. Together, these projects can strengthen regional connectivity, improve maritime logistics, and contribute to a free, open, and secure Indo-Pacific.



India's Maritime Capabilities:

- Recognising the importance of maritime security, India has steadily enhanced its naval and surveillance capabilities. The Indian Navy today is among the strongest in the Indian Ocean Region and is supported by an expanding Coast Guard.
- More importantly, India has developed a robust Maritime Domain Awareness (MDA) network that provides continuous monitoring of maritime activities. This system includes the Information Fusion Centre-Indian Ocean Region (IFC-IOR), the Integrated Coastal Surveillance System (ICSS), coastal radar stations, P-8I Poseidon

maritime patrol aircraft, MQ-9B drones, satellite-based monitoring, and information-sharing arrangements with countries such as the United States, Australia, Singapore, Mauritius, Maldives, Seychelles, Sri Lanka, Oman, and Madagascar.

- These capabilities enable India to track commercial shipping, monitor foreign naval movements, combat piracy, and respond to emerging maritime threats. However, surveillance alone cannot guarantee control over strategic chokepoints, making international cooperation equally important.

Key Challenges:

- Despite these advancements, India continues to face several maritime challenges. Its heavy dependence on imported energy makes it vulnerable to disruptions in the Gulf region. The growing naval presence of China in the Indian Ocean through the String of Pearls strategy has increased strategic competition.
- Regional instability in West Asia, piracy, maritime terrorism, cyber threats to port infrastructure, and delays in strategic projects such as Great Nicobar also pose significant concerns. Furthermore, India's ability to influence events in distant maritime chokepoints remains limited, requiring a combination of diplomacy, economic engagement, and defence preparedness.

Way Forward:

- India's maritime strategy should focus on reducing vulnerabilities while enhancing its role as a net security provider in the Indian Ocean Region.
- India must diversify its sources of crude oil and strengthen alternative connectivity projects such as Chabahar Port and the International North-South Transport Corridor (INSTC).
- The timely development of the Great Nicobar Project and Sabang Port should be prioritised to strengthen India's strategic presence near the Strait of Malacca.

- The Maritime Domain Awareness architecture should be upgraded through greater use of artificial intelligence, satellite technology, underwater sensors, and unmanned systems.
- Continued modernisation of the Indian Navy, including submarines, anti-submarine warfare capabilities, aircraft carriers, and long-range surveillance assets, is essential.
- Finally, India should deepen cooperation through initiatives such as the Quad, Indian Ocean Rim Association (IORA), Indian Ocean Naval Symposium (IONS) and the SAGAR (Security and Growth for All in the Region) vision to promote a free, open, inclusive, and rules-based maritime order.

Conclusion:

The 2026 Hormuz crisis and the renewed focus on Sabang Port clearly demonstrate that India's maritime security is inseparable from its economic and energy security. As India's dependence on maritime trade continues to grow, safeguarding strategic sea routes must remain a national priority. Although India cannot exercise direct control over key chokepoints such as Hormuz and Malacca, it can reduce its vulnerabilities through stronger naval capabilities, enhanced maritime surveillance, strategic infrastructure development, diversified energy supplies, and deeper partnerships with like-minded countries. A balanced maritime strategy that combines geography with geopolitics will not only protect India's national interests but also reinforce its position as a leading maritime power in the Indo-Pacific.

Short Issues

US Supreme Court Upholds Birthright Citizenship

Why in News?

The US Supreme Court, in a 6–3 majority judgment, struck down former President Donald Trump's executive order seeking to restrict birthright citizenship in the United States. The ruling upholds the constitutional guarantee that children born on US soil automatically acquire American citizenship, providing major relief to thousands of Indian professionals, students, and families residing in the US on temporary visas.

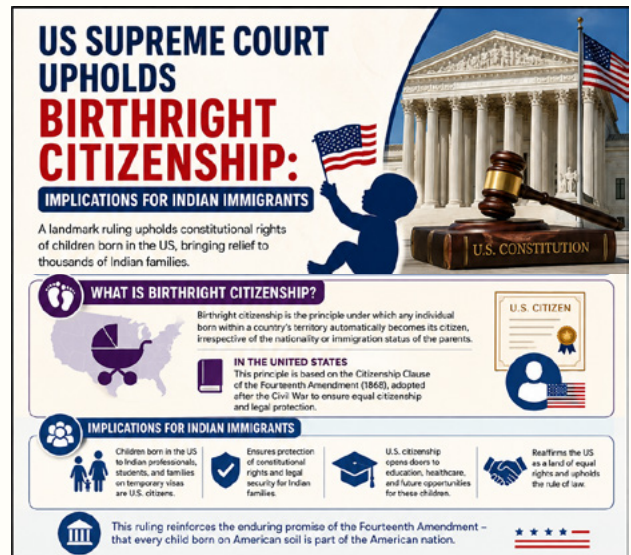
Background:

- On the first day of his second term, President Donald Trump signed an executive order seeking to deny birthright citizenship to children born in the United States to undocumented migrants and parents staying temporarily on visas.
- However, the Supreme Court ruled that such restrictions violate the Fourteenth Amendment of the US Constitution, which guarantees citizenship to nearly all persons born within the country's territory.
- Writing for the majority, Chief Justice John Roberts held that the long-standing interpretation of the Fourteenth Amendment clearly guarantees birthright citizenship, with only limited exceptions such as children of foreign diplomats.
- The Court ruled that constitutional rights cannot be altered through executive orders, reaffirming the supremacy of the Constitution.

What is Birthright Citizenship?

- Birthright citizenship is the principle under which any individual born within a country's territory automatically becomes its citizen, irrespective of the nationality or immigration status of the parents.
- In the United States, this principle is based on the Citizenship Clause of the Fourteenth

Amendment (1868), adopted after the Civil War to ensure equal citizenship and legal protection.



Why is the Ruling Significant for Indians?

- The judgment is particularly important for the Indian diaspora, one of the fastest-growing immigrant communities in the United States.
- Nearly 3.2 million documented Indian immigrants live in the US.
- More than 400,000 Indian professionals work on H-1B visas, while many others are employed through L-1 visas or pursue higher education on F-1 student visas.
- Over 1.2 million Indians remain in the employment-based Green Card backlog, often waiting decades for permanent residency.
- The ruling guarantees that children born in the US to Indian visa holders, students, visitors, and even undocumented migrants will continue to receive automatic US citizenship.
- This provides long-term legal certainty to families facing prolonged immigration delays.

Implications:

- The ruling strengthens constitutional

protections, upholds judicial review, and limits executive overreach in matters of citizenship.

- It provides stability for immigrant families, particularly Indians affected by lengthy visa and Green Card waiting periods.
- The judgment also reinforces the United States' long-standing commitment to equal citizenship and legal certainty.

Conclusion:

The Supreme Court's decision is a landmark affirmation of constitutionalism, equality, and the rule of law. For the Indian diaspora, it offers reassurance that the citizenship rights of US-born children remain protected despite uncertainties surrounding immigration policies.

India-Japan 16th Annual Summit 2026

Why in News?

Recently, the Prime Minister of Japan Sanae Takaichi visited India (1–3 July 2026) for the 16th India–Japan Annual Summit. Leaders of India and Japan adopted a shared vision of “Strategic Convergence and Trust for Shared Growth, Prosperity and Resilience”, strengthening the India–Japan Special Strategic and Global Partnership.

Key Outcomes of the Summit:

- **Defence and Security Cooperation**
 - » Strengthening of 2+2 ministerial dialogue framework
 - » Expansion of naval cooperation through exercises like JIMEX, Malabar, Dharma Guardian
 - » Progress in defence technology cooperation, including UNICORN system project
 - » Enhanced maritime domain awareness and logistics cooperation
 - » **Aim:** strengthen Indo-Pacific maritime security
- **Economic and Economic Security**

Cooperation

- » Adoption of India–Japan Joint Declaration on Economic Security Cooperation
- » Focus on semiconductors, critical minerals, ICT, pharmaceuticals, clean energy
- » Commitment to resilient and diversified global supply chains
- » Review and expansion of Comprehensive Economic Partnership Agreement (CEPA) Shift towards strategic economic resilience



- **Trade, Investment and Infrastructure**
 - » Progress towards 10 trillion yen investment target
 - » Expansion of Japanese Industrial Townships in India
 - » Cooperation in metro rail, freight corridors, and smart cities
 - » Support for India–Japan High Speed Rail (Mumbai–Ahmedabad corridor)
 - » Strengthening India’s industrial and connectivity base
- **Technology, AI and Innovation**
 - » Launch of India–Japan AI Strategic Dialogue
 - » Cooperation in quantum technologies, space (LUPEX mission), and digital infrastructure
 - » Alignment with Hiroshima AI Process and responsible AI governance
 - » Focus on trusted and secure technology ecosystems

- **Energy and Climate Cooperation**
 - » Expansion of cooperation in hydrogen, ammonia, solar, and biogas projects
 - » Joint efforts on energy security and strategic petroleum reserves
 - » Promotion of clean energy transition and supply chain resilience
- **Global and Regional Cooperation**
 - » Strong alignment on Free and Open Indo-Pacific (FOIP)
 - » Cooperation within Quad framework
 - » Shared concerns over maritime security in South China Sea and East China Sea
 - » Coordination on UN reforms (G4 framework) and global governance

About India–Japan Relations:

- India–Japan relations are among the most stable and forward-looking partnerships in Asia, often described as the “most natural strategic partnership in the Indo-Pacific.” The relationship is rooted in shared democratic values, rule of law, and convergence on maintaining a Free and Open Indo-Pacific (FOIP).
- Historically, ties evolved from ancient civilizational links through Buddhism to a modern strategic partnership. Key milestones include the 1952 Peace Treaty, 2000 Global Partnership, and 2014 Special Strategic and Global Partnership, further deepened through Annual Summits.
- Cooperation spans defence, economics, and technology. Both countries engage in joint military exercises like JIMEX and Malabar, and cooperate on defence technology and maritime security. Japan is a major investor in India, supporting infrastructure projects such as the Mumbai–Ahmedabad High-Speed Rail and metro systems. Emerging areas include semiconductors, AI, clean energy, and critical minerals.
- Both also collaborate in the Quad, UN reforms, and Indo-Pacific initiatives.
- Despite trade barriers and project delays, the partnership continues to deepen, driven by strategic trust and shared regional goals.

Conclusion:

The 16th India–Japan Summit marks a decisive shift from a traditional development partnership to a future-oriented strategic alliance. With deepening cooperation in defence, technology, infrastructure, energy, and Indo-Pacific security, both countries are emerging as key architects of a stable, rules-based, and multipolar regional order.

India–Indonesia Comprehensive Strategic Partnership

Context:

Recently, Prime Minister of India paid a State Visit to Indonesia, during which both countries adopted a Joint Statement to deepen their Comprehensive Strategic Partnership (CSP).

India–Indonesia Bilateral Relations:

- India and Indonesia share a Comprehensive Strategic Partnership established in 2018, based on centuries-old civilizational, cultural, and maritime linkages.
- The relationship covers political dialogue, defence cooperation, maritime security, trade, investment, digital economy, energy, space, education, culture and regional cooperation.

Key Outcomes of India–Indonesia Summit:

- **Political and Strategic Cooperation:**
 - » Both countries agreed to institutionalise regular summit meetings and strengthen existing mechanisms such as the Joint Commission Meeting, Foreign Office Consultations and parliamentary exchanges.
 - » Cooperation among think tanks, academic institutions, and policy experts will also be enhanced for better strategic coordination.
- **Defence and Maritime Security:** India and Indonesia expanded defence cooperation in

areas including:

- » BrahMos missile system
- » Air-to-Air Missiles
- » Joint military exercises
- » Defence technology cooperation
- » Hydrography and Maritime Domain Awareness (MDA)
- » Indonesia will station an International Liaison Officer at India's IFC-IOR, Gurugram, improving maritime information sharing and Indo-Pacific security.



▪ Counter-Terrorism and Cyber Security:

- » Both nations adopted a zero-tolerance approach towards terrorism and agreed to cooperate against terror financing, violent extremism, and online radicalisation.
- » Cyber cooperation will focus on digital forensics, CERT cooperation, and protection of critical information infrastructure.

▪ Trade, Investment and Critical Minerals

- » India and Indonesia committed to concluding the ASEAN-India Trade in

Goods Agreement (AITIGA) Review to improve market access and reduce trade barriers.

- » They also promoted Local Currency Transactions between RBI and Bank Indonesia.
- » Cooperation in critical minerals, rare earths, and steel supply chains was strengthened.
- » Both nations will explore stainless steel production and technology transfer.

▪ Energy, Agriculture and Digital Connectivity

- » The two countries agreed to cooperate in green hydrogen, LNG, solar energy, bioenergy, agriculture, food security, and fertilizer sectors.
- » India will support the development of Sabang Port, while both nations will enhance Andaman-Aceh connectivity.
- » Digital cooperation includes the launch of Indonesia Open Network (ION) based on India's ONDC framework and progress on cross-border QR payments.

▪ Science, Culture and Education

- » India and Indonesia expanded cooperation between ISRO and BRIN, including support for the Gaganyaan Mission through Indonesia's Biak tracking facilities.
- » Collaboration will also continue in AI, nuclear energy, and scientific research.
- » India will support restoration of the UNESCO-listed Prambanan Temple Complex, and 2026-27 will be celebrated as the Tagore-Dewantara Year.

Strategic Importance for India:

- The partnership strengthens India's Act East Policy and Indo-Pacific vision.
- Sabang Port enhances India's maritime presence near the Strait of Malacca, while BrahMos exports boost defence manufacturing.
- Indonesia's nickel reserves support India's EV and battery industries. Expansion of UPI and ONDC promotes India's digital leadership.

Challenges:

- Indonesia maintains strategic autonomy and avoids direct confrontation with China.
- Trade imbalance persists due to market access barriers.
- Infrastructure projects face regulatory and environmental delays.
- Defence technology integration requires careful handling of security concerns.

Conclusion:

India-Indonesia relations represent a key pillar of Indo-Pacific stability. By combining maritime cooperation, defence partnerships, critical mineral security, and digital innovation, both countries can contribute to a secure and prosperous regional order aligned with India's Viksit Bharat 2047 vision and Indonesia's Emas 2045 roadmap.

India-Australia 3rd Annual Leaders' Summit 2026

Why in News?

Recently, Prime Minister Narendra Modi and Australian Prime Minister Anthony Albanese held the 3rd Australia-India Annual Leaders' Summit in Melbourne. The summit marked a significant advancement in bilateral ties with agreements on defence, maritime security, clean energy, critical minerals, trade, technology, and education, reinforcing the Comprehensive Strategic Partnership between the two countries.

Key Outcomes of the Summit:

▪ Defence and Security Cooperation:

- » The two leaders signed a Joint Declaration on Defence and Security Cooperation to strengthen peace and stability in the Indo-Pacific.
- » They also institutionalised an Annual Defence Ministers' Dialogue and launched a Maritime Security Collaboration Roadmap to enhance naval cooperation, maritime domain

awareness, and regional security.

▪ Economic and Trade Cooperation:

- » Building upon the India-Australia Economic Cooperation and Trade Agreement (ECTA), 2022, both countries agreed to accelerate negotiations for a Comprehensive Economic Cooperation Agreement (CECA) and a Bilateral Investment Treaty (BIT).
- » The objective is to expand trade, investment, and market access while creating a balanced and mutually beneficial economic partnership.



INDIA-AUSTRALIA ANNUAL SUMMIT 2026
 3rd India-Australia Annual Summit | Melbourne, 2026

NEWS IN 1 LINE
 India and Australia signed landmark agreements at the 3rd Annual Summit in Melbourne.

KNOW THE TOPIC

- SUMMIT:** 3rd India-Australia Annual Summit held in Melbourne in 2026. PM Modi met Australian PM Anthony Albanese.
- STRATEGIC CONTEXT:** Growing convergence between two Indo-Pacific democracies amid China's assertiveness and disruptions to maritime trade.
- SHARED VISION:** Reaffirmed commitment to a Free, Open, Inclusive and Rules-based Indo-Pacific.
- MARITIME PRINCIPLES:** Uphold freedom of navigation and adherence to UNCLOS (United Nations Convention on the Law of the Sea).
- QUAD COOPERATION:** Strengthening cooperation as Quad partners.
- GLOBAL OUTLOOK:** Resolve global conflicts through dialogue & diplomacy.
- SECURITY COMMITMENT:** Joint efforts against cross-border terrorism.

▪ Energy Security:

- » A major outcome was the operationalisation of the Administrative Arrangement under the Australia-India Nuclear Cooperation Agreement, enabling long-term Australian uranium exports to India under international safeguards.
- » Australia possesses nearly one-third of the world's known uranium reserves, and the agreement supports India's target of achieving 100 GW of nuclear power capacity by 2047 as part of its clean energy transition.

▪ Critical Minerals Partnership:

- » Both countries launched a Dedicated Critical Minerals Corridor to secure

resilient supply chains for lithium, cobalt, rare earth elements, and other strategic minerals.

- » The initiative promotes joint investment in mineral processing and refining while reducing dependence on single-source global supply chains for electric vehicles, semiconductors, renewable energy technologies, and defence manufacturing.

▪ **Technology, Education and Renewable Energy:**

- » The summit operationalised the Australia-India Partnership on Cyber, Critical Technologies and Supply Chains (AI-PACTS).
- » Both nations also expanded cooperation in renewable energy through the Rooftop Solar Training Academy in Gujarat, focusing on skill development for women and youth.
- » Educational ties were strengthened with the establishment of new Australian university campuses in Bengaluru and Gurugram.

Conclusion:

The summit represents a major step in strengthening the India-Australia Comprehensive Strategic Partnership. It enhances cooperation in defence, clean energy, critical technologies, resilient supply chains, and the Indo-Pacific. The partnership also benefits from a vibrant Indian diaspora and expanding people-to-people, educational, and economic ties, making Australia one of India's most important strategic partners in the region.

India-New Zealand Strategic Partnership

Why in News?

Recently, India and New Zealand upgraded their bilateral relations to a Strategic Partnership and signed 10 mou during Prime Minister Narendra Modi's visit to Auckland. Both countries adopted

the Roadmap to 2030 to guide cooperation in political, defence, economic, technological and people-to-people areas. They also agreed to double bilateral trade in goods and services to NZ\$7 billion by 2030.

Background of India-New Zealand Relations:

- India and New Zealand established diplomatic relations in 1952 and share democratic values, rule of law and commitment to a rules-based international order.
- The relationship is supported by:
 - » Indian diaspora of around 2.9 lakh people (nearly 6% of New Zealand's population).
 - » Education, cultural and sporting exchanges.
 - » Cooperation in trade, agriculture and multilateral forums.
 - » The Strategic Partnership represents a shift towards deeper cooperation in security, economy and regional affairs.



Key Outcomes of India-New Zealand Partnership:

- **Strategic Partnership Roadmap 2030:** Both countries approved the Strategic Partnership Roadmap to 2030 to enhance cooperation in trade, investment, defence, technology, agriculture, education, culture, and maritime security.
- **Trade and Investment:** The two sides have set a target of doubling bilateral trade by 2030 through the Free Trade Agreement (FTA). New Zealand has also announced plans to

invest US\$20 billion in India.

- **Defence and Maritime Security:** The two countries agreed to enhance cooperation under the Indo-Pacific Oceans Initiative (IPOI) to strengthen peace, stability, and maritime security in the Indo-Pacific region. They will promote naval exercises, military exchanges, defence dialogue, hydrography, logistics support, and cooperation in maritime operations.
- **Counter-Terrorism, Cyber Security and Global Cooperation:** Both sides will activate the Joint Working Group on Counter Terrorism, strengthen cyber security cooperation, and intensify joint efforts against international terrorism and transnational organised crime. New Zealand also reaffirmed its support for India's aspiration for permanent membership of the United Nations Security Council (UNSC).
- **Clean Energy and Global Vision:** Both countries will enhance cooperation in low-carbon development, clean energy, sustainable energy transition, and biofuels. They also reaffirmed their commitment to a free, open, and peaceful Indo-Pacific and agreed to strengthen cooperation on global issues such as UN reforms and counter-terrorism.

Significance:

- The Strategic Partnership strengthens India's engagement in the Pacific region and supports a free, open and stable Indo-Pacific. It creates opportunities for greater trade, investment, technology sharing and innovation.
- Cooperation with New Zealand also contributes to India's economic development goals, including the vision of Viksit Bharat 2047, while enhancing collaboration in maritime security and global forums.

Challenges:

- The partnership faces challenges such as differences in approaches towards China and regional security issues, limited trade

volumes, agricultural market access concerns and geographical distance.

- Effective implementation of agreements and improving connectivity will be important for achieving the goals of the Roadmap to 2030.

Conclusion:

The India–New Zealand Strategic Partnership marks a new phase in bilateral relations by expanding cooperation in defence, trade, technology, education and regional security. Successful implementation of the Roadmap to 2030 can strengthen mutual prosperity and contribute to peace and stability in the Indo-Pacific region.

Operation Hardball: India-US Crackdown on Transnational Crime

Why in News?

Recently, The US Department of Justice (DOJ) and the FBI launched Operation Hard Ball, an international crackdown on India-based transnational crime groups.

What is Transnational Organised Crime?

- Organised crime refers to illegal activities carried out by structured groups for financial or material gain through violence, corruption or other unlawful methods. When such criminal networks operate across multiple countries, they are known as transnational organised crime. These networks are involved in drug trafficking, extortion, contract killings, human trafficking and illegal financing.

About Operation 'Hardball':

- Operation 'Hardball' is a sweeping, multi-national federal investigation spearheaded by the FBI and US prosecutors targeting three India-based transnational organized crime syndicates involved in murder, extortion, drug trafficking, kidnapping and organised crime.

- The US charged Lawrence Bishnoi and Goldy Brar for allegedly coordinating criminal activities, including the Nijjar killing investigation. The FBI announced a \$50,000 reward for information leading to Goldy Brar's arrest.
- The operation involved intelligence cooperation between Indian and foreign agencies. Information was exchanged regarding criminals such as Lawrence Bishnoi, Goldy Brar, Rohit Godara and Jaggu Bhagwanpuria. The operation resulted in arrests, seizure of narcotics, firearms and criminal assets.

OPERATION HARDBALL: INDIA-US CRACKDOWN ON TRANSNATIONAL CRIME



India-US Security Cooperation:

- Operation Hardball reflects growing India-US cooperation in combating transnational crime. Indian agencies shared evidence, intelligence inputs and details of criminal networks operating from countries such as the US, Canada and Europe.
- Cooperation has increased through intelligence sharing, law-enforcement coordination and extradition mechanisms.

What are Interpol Notices?

- The International Criminal Police Organization (Interpol), established in 1923, enables cooperation among police forces of member countries.
- It facilitates information sharing and assists countries in locating criminals, missing persons and security threats.

Types of Interpol Notices:

- **Red Notice:** Seeks location and arrest of a person wanted for prosecution or punishment; it supports extradition but is not an international arrest warrant.
- **Blue Notice:** Collects information about a

- person involved in a criminal investigation.
- **Green Notice:** Warns countries about individuals considered a possible threat.
- **Yellow Notice:** Helps locate missing persons or unidentified individuals.

- **Black Notice:** Seeks information on unidentified bodies.
- **Orange Notice:** Warns about threats involving persons, objects or events.
- **Purple Notice:** Shares information about criminal methods, tools and hiding places.

Emerging Challenges of Transnational Crime:

- Modern criminal networks increasingly use:
 - » Drug trafficking and illegal financial networks.
 - » Maritime routes and drones for smuggling.
 - » Encrypted communication platforms and VPNs to avoid surveillance.
 - » Links between organised crime and extremist activities.
 - » The decline of traditional criminal gangs has also led to the rise of globally connected crime syndicates.

International Efforts:

- Global efforts against transnational crime include:
 - » UN Convention against Transnational

Organized Crime (UNTOC) to combat organised crime across borders.

- » Interpol cooperation for criminal tracking.
- » Financial Action Task Force (FATF) efforts against illegal financial flows.
- » UN Office on Drugs and Crime (UNODC) initiatives.
- » BRICS cooperation against drug trafficking and organised crime.

Significance for India:

- **Internal Security:** Combating terrorism, narcotics trafficking and criminal networks.
- **International Relations:** Managing diplomatic disputes through evidence-based investigations.
- **Legal Framework:** Strengthening UAPA, extradition mechanisms and international police cooperation.

Extradition Framework:

- India's extradition process with countries like the US is governed by the Extradition Treaty of 1997 and the Extradition Act, 1962.
- The principle of dual criminality applies, meaning the offence must be punishable in both countries. The final decision on extradition rests with the respective governments after legal examination.

Conclusion:

Operation Hardball and Interpol mechanisms demonstrate the growing importance of international cooperation in tackling organised crime and security threats. For India, stronger intelligence sharing, extradition cooperation and global partnerships are essential to address transnational criminal networks effectively.

China's Sea-Based ICBM Test

Context:

China's recent test of a sea-based Intercontinental Ballistic Missile (ICBM) has raised concerns about the changing strategic

environment in the Indo-Pacific region. The test demonstrates China's expanding nuclear capabilities and its efforts to strengthen its second-strike capability through submarine-based nuclear forces. This development has important implications for India, the United States, and other regional powers.

Key Highlights of the Missile Test:

- China conducted its first known sea-based long-range ballistic missile test in international waters on July 6. The missile was launched from a Chinese submarine, most likely a Ju Lang-2 (JL-2) or advanced Ju Lang-3 (JL-3) submarine-launched ballistic missile (SLBM).
- The missile travelled around 7,300 km before landing in the Southern Pacific Ocean. It carried a dummy warhead and passed over several Exclusive Economic Zones (EEZs). The test showed China's growing ability to deploy nuclear weapons through submarines and strengthen its nuclear triad.

About Intercontinental Ballistic Missile:

- An Intercontinental Ballistic Missile (ICBM) is a long-range missile capable of travelling more than 5,000 km and delivering nuclear or conventional warheads. These missiles form a crucial part of a country's strategic deterrence capability.

Nuclear Triad:

- A nuclear triad refers to the ability of a country to launch nuclear weapons through three platforms:
 - » Land-based missiles (ICBMs)
 - » Sea-based missiles (SLBMs carried by nuclear submarines)
 - » Strategic bombers
 - » China's latest test indicates progress in developing a more reliable nuclear triad.

ICBM & NUCLEAR TRIAD

STRENGTH TODAY, SECURITY TOMORROW

WHAT IS AN ICBM?

An Intercontinental Ballistic Missile (ICBM) is a long-range missile capable of travelling more than **5,000 km** and delivering nuclear or conventional warheads to targets across continents. ICBMs form a crucial part of a country's strategic deterrence capability.

- Range** > 5,000 km (Intercontinental Reach)
- Payload** Nuclear or Conventional Warheads
- Role** Strategic Deterrence, National Security

KEY IMPORTANCE

- ✓ Long-range strike capability
- ✓ Strategic deterrence
- ✓ National security and sovereignty
- ✓ Deterrence against adversaries

MORE THAN 5,000 KM
CROSS CONTINENTS

THE NUCLEAR TRIAD

A nuclear triad refers to the ability of a country to launch nuclear weapons through three platforms. This ensures survivability, flexibility and a second-strike capability even in the face of an attack.

1 LAND-BASED MISSILES (ICBMs)



- ✓ Launched from land-based silos or mobile launchers
- ✓ Long range and high survivability
- ✓ Quick response and reliable deterrence

2 SEA-BASED MISSILES (SLBMs)



- ✓ Launched from nuclear submarines
- ✓ Stealth and mobility for survivability
- ✓ Can strike from anywhere in the world

3 STRATEGIC BOMBERS



- ✓ Can deliver nuclear weapons globally
- ✓ Flexible deployment and rapid response
- ✓ Penetrate defenses with advanced systems

CHINA'S PROGRESS

China's latest test of an ICBM demonstrates advancements in its strategic capabilities, strengthening its nuclear triad and enhancing reliability, survivability and deterrence in a rapidly changing global security environment.

A STRONGER TRIAD A SAFER TOMORROW

A credible nuclear triad ensures peace through deterrence and protects national interests.

DETERRENCE THAT PREVENTS | **SECURITY THAT ENDURES** | **PEACE THAT LASTS**

major global power

Implications for the Indo-Pacific Region:

- China's missile advancement may increase strategic competition in the Indo-Pacific. The United States may need to strengthen its missile defence systems and increase focus on East Asia.
- For regional countries such as Japan, Australia, and India, China's growing nuclear and naval capabilities create concerns about regional stability and the possibility of an arms race.

Implications for India:

- The test highlights the widening strategic gap between India and China. India needs to strengthen its nuclear deterrence and maritime security capabilities.
- Important steps include:
 - » Development of longer-range submarine-launched missiles such as K-5 and K-6
 - » Expansion of the nuclear-powered ballistic missile submarine (SSBN) fleet
 - » Improvement of anti-submarine warfare capabilities
 - » Strengthening seabed domain awareness in the Indian Ocean Region

What is Second-Strike Capability?

- Second-strike capability refers to the ability of a country to survive an enemy's first nuclear attack and still retaliate. Nuclear submarines play a major role because they are difficult to detect and destroy.

Significance of China's Nuclear Expansion:

- China has traditionally followed a minimum nuclear deterrence policy. However, recent developments indicate a shift towards a larger and more advanced nuclear posture.
- The test highlights:
 - » Improvement in submarine-based nuclear forces
 - » Development of advanced missile technology
 - » Greater emphasis on early-warning and counter-strike capabilities
 - » China's ambition to project itself as a

Treaty of Rarotonga and Nuclear-Free Zones:

- The missile landed in an area covered by the Treaty of Rarotonga, which establishes the South Pacific Nuclear Free Zone.
- The treaty prohibits nuclear explosive testing and deployment of nuclear weapons in the region. However, missile tests without nuclear warheads are not considered nuclear explosions.

Way Forward:

India should focus on maintaining a credible minimum deterrence posture by strengthening its nuclear triad, improving maritime surveillance, and enhancing cooperation with Indo-Pacific partners.

Conclusion:

China's sea-based ICBM test reflects its growing nuclear capabilities and changing strategic priorities. While it strengthens China's second-strike capability, it also increases security challenges in the Indo-Pacific. India must continue developing advanced defence technologies and maritime capabilities to maintain strategic stability and protect its national interests.

India-U.K. Comprehensive Economic and Trade Agreement

Context:

The India-United Kingdom Comprehensive Economic and Trade Agreement (CETA), signed on July 25, 2025, came into force on July 15, 2026. It is one of India's most important trade agreements in recent years and aims to strengthen economic cooperation between the two countries.

Key Features of CETA:

- CETA covers trade in goods and services, digital trade, investment, labour mobility, innovation, government procurement, SMEs, gender inclusion, and environmental cooperation.
- The agreement removes tariffs on nearly 99% of India's exports to the U.K., benefiting sectors such as agriculture, textiles, pharmaceuticals, electronics, marine products, engineering goods, chemicals, and leather.
- The U.K. will immediately eliminate tariffs on 96.8% of tariff lines, covering 97.7% of trade value, while India will gradually reduce tariffs across a large share of its imports.
- The agreement also addresses non-tariff barriers through cooperation on Sanitary and Phytosanitary (SPS) measures and Technical Barriers to Trade (TBT).



INDIA-UK FTA
 COMPREHENSIVE ECONOMIC & TRADE AGREEMENT (CETA)
 ENTERS INTO FORCE

BUSINESS ADVANTAGE

- Commitments across all 12 major service sectors & 137 sub-sectors**
- Boost for temporary mobility:** Enhanced regulatory certainty facilitating temporary mobility for Indian professionals to UK
- Faster, Simpler Trade for SMEs:** Quicker customs processing, paperless trade systems, dedicated SME chapter & designated SME contact point under CETA
- Ease of Doing Business:** Streamlined customs with non-discriminatory treatment for Indian businesses in goods, services & government procurement
- Enhanced market access for Indian IT and ITes:** Expected to provide a boost to services exports

Sectoral Benefits:

- **Agriculture and Marine Sector:** Indian farmers and fisherfolk are expected to benefit from duty-free access for products such as fruits, vegetables, spices, processed foods, shrimp, tuna, and other marine products. Improved SPS cooperation will reduce rejection risks and improve export opportunities.
- **Textiles, Engineering and Manufacturing:** Tariff elimination on textiles, garments, engineering goods, auto components, and handicrafts will enhance India's competitiveness in the U.K. market. Labour-intensive MSME clusters in sectors like leather and footwear are expected to gain.
- **Pharmaceuticals, Electronics and IT:** The agreement improves access for generic medicines, medical devices, smartphones, and digital services. Indian IT and professional service providers will gain from better market access and easier movement of skilled workers.

About Double Contribution Convention:

- The Double Contribution Convention (DCC) addresses the issue of Indian professionals paying social security contributions in both countries.
- Under the agreement, Indian workers contributing to India's social security system will be exempt from U.K. social security payments for a specified period.
- It is expected to benefit over 75,000 Indian workers and 900 employers, particularly in sectors such as IT, healthcare, and professional services.
- The agreement also includes India's first dedicated gender chapter, focusing on supporting women entrepreneurs and increasing their participation in global value chains.

Challenges:

- Despite its benefits, challenges include low FTA utilisation, compliance with international standards, domestic competition, and possible impacts of carbon-related trade measures like the Carbon Border Adjustment Mechanism (CBAM).

Government Procurement and Gender Inclusion:

- CETA opens limited access to India's government procurement market for eligible U.K. companies, which may improve competition, efficiency, and technology standards. However, sensitive sectors require protection to support the Make in India initiative.

Conclusion:

India-U.K. CETA and DCC represent a shift towards inclusive and future-oriented trade agreements. By promoting exports, investment, skilled mobility, and integration into global value chains, the agreements can strengthen India's economic growth while requiring careful implementation to protect domestic interests.

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Environment & Ecology



Annual Floods in Assam: The Challenge of Balancing Development Models, Climate and River Basin Management

Context:

According to the National Disaster Management Authority (NDMA), approximately 40% of Assam is vulnerable to floods, affecting millions of people every year. Currently, Assam is grappling with severe flooding. Millions of people have been displaced, hundreds of villages submerged, agricultural land destroyed and many ecosystems, including the World Heritage Site Kaziranga National Park, affected. Experts believe that the current floods are not merely the result of excessive monsoon rainfall but stem from the combined effects of climate change, the natural dynamics of the Brahmaputra River, and anthropogenic interventions.

Reasons for Annual Flooding in Assam:

- Assam is one of India's most flood-prone states, accounting for approximately 9% of the country's total flood-prone area. Heavy rainfall is not the sole cause; the state's geographical structure, the Himalayan river system, and the characteristics of the monsoon climate also play significant roles.
- According to NDMA data, a key reason for the recurring flood situation is that about 75% of India's total annual rainfall occurs within the short four-month monsoon season (June to September). Consequently, rivers experience massive water flow during these months.

Brahmaputra River: The Root Cause of Floods

- The root cause of floods in Assam lies in the

nature of the Brahmaputra River. It is one of the major rivers in the world carrying the maximum amount of water and sediment. Originating in Tibet, it enters Assam after flowing through Arunachal Pradesh. Upon transitioning from high mountainous regions to the plains of Assam, the river's gradient decreases; this reduces the water's velocity and causes vast amounts of silt to accumulate on the riverbed.

- Over time, the river bed rises and even a small amount of additional rainfall is enough to cause the river to overflow its embankments. Apart from this, Brahmaputra is a braided river, whose streams keep changing their course continuously. This is the reason why along with floods, riverbank erosion has also become a serious problem in Assam.

Major Factors:

- **Excessive Monsoon Rainfall:** Northeast India is among the world's rainiest regions. A significant portion of the intense rainfall occurring in Meghalaya, Arunachal Pradesh, and the upper Himalayan regions drains into the Brahmaputra and its tributaries. Heavy rainfall over a short period overwhelms the carrying capacity of the rivers.
- **Himalayan Sedimentation:** The Himalayas are a young mountain range where landslides and erosion are common occurrences. The vast quantities of soil and rock generated by these processes enter the Brahmaputra, continuously raising the riverbed. Consequently, the pressure on

the river's water-holding capacity steadily increases.



- **Climate Change:** Climate change has made the monsoon season more erratic and extreme. Instead of steady rainfall over an extended period, heavy precipitation now occurs in short bursts. Due to this, incidents of flash floods and widespread waterlogging are increasing. Various scientific studies and recent events confirm the intensifying nature of extreme monsoon phenomena in South Asia.
- **Deforestation and Land-Use Changes:** Deforestation, road construction, mining, and other developmental activities in the upper catchment areas have accelerated soil erosion. This causes more silt to reach the rivers and increases the possibility of floods.
- **Limitations of Embankment-Based Strategies:**

Embankments have been the primary method of flood control in Assam for decades. But many embankments are old, weak or damaged due to inadequate maintenance. Many times their breaking causes sudden large scale destruction. Relying solely on the construction of embankments has not proven to be a long-term solution.

- **Encroachment on Floodplains and Wetlands:** Natural floodplains and wetlands serve to absorb excess water. However, urbanization, illegal construction, and land encroachment are continuously shrinking these areas, thereby intensifying flood impacts. The objective of floodplain zoning in India is to minimize loss of life and property by controlling unplanned construction and encroachment in flood-prone areas.
- **Combined impact of the Brahmaputra's tributaries:** In Assam, the Brahmaputra River is fed by more than 50 major and minor tributaries from both the north and the south. Prominent among these are the Subansiri, Siang, Dibang, Lohit, Manas, Jia-Bharali, Beki, Puthimari, Pagladiya, Kopili, and Dhansiri rivers. During the Southwest Monsoon, when heavy rainfall occurs simultaneously across the catchment areas of all these rivers, they discharge vast quantities of water and sediment into the Brahmaputra. This causes the water level of the main river to rise rapidly, placing immense pressure on its drainage capacity. Consequently, the Brahmaputra breaches its banks, resulting in widespread flooding. Himalayan rivers originating in Arunachal Pradesh, in particular, carry water and silt at high velocities due to steep gradients, thereby intensifying both flooding and riverbank erosion. For this reason, the flooding in Assam is understood not merely as a problem specific to the Brahmaputra, but as a hydrological issue affecting the entire Brahmaputra river basin.
- **The problem of riverbank erosion:** Riverbank erosion is a problem even more destructive than flooding in Assam. Every year, the Brahmaputra engulfs thousands of

hectares of agricultural land and numerous villages within its flow. Majuli, in particular, considered the world's largest river island has been facing continuous erosion for several decades. Riverbank erosion leads to permanent displacement of people, crises regarding land rights, and loss of livelihoods, creating serious socio-economic challenges.

Impact on people, wildlife, and the economy:

- The floods in Assam are not merely a humanitarian crisis but a broad developmental challenge.
- Riverbank erosion and flooding lead to internal displacement, creating issues regarding land rights and rehabilitation.
- Agriculture, fisheries, and animal husbandry suffer heavy losses.
- Infrastructure such as roads, bridges, power, and communication networks is affected.
- The risk of waterborne diseases increases.
- In Kaziranga National Park, many wildlife including rhinoceros, elephants, deer migrate to higher areas, which increases the risk of accidents and deaths.
- The state economy faces a direct and indirect annual impact amounting to thousands of crores of rupees.
- Unplanned development and increasing intensity of floods lead to degradation and fragmentation of natural wetlands, affecting their ecological potential.
- However, controlled and natural floods bring fertile alluvial soil to the Brahmaputra Valley and play an important role in the conservation of wetlands and biodiversity. The problem lies not in the flooding itself, but in its increasing intensity, unplanned development, and heightened vulnerability.

Need for flood management:

- The solution to the Assam floods cannot be limited to relief and rehabilitation alone. It is essential to adopt an approach based on Integrated River Basin Management and Disaster Risk Reduction (DRR). Aligned with the Sendai Framework (2015–2030), this approach emphasizes risk identification,

early warning systems, disaster-resilient infrastructure, and community capacity building.

Key measures:

- Strengthening transboundary water cooperation involving India, Bhutan, and China for the Brahmaputra basin.
- Prioritizing regular maintenance and scientific assessment of embankments.
- Effectively implementing scientific floodplain zoning.
- Extensive afforestation and soil conservation in upper catchment areas.
- Expansion of satellite-based early warning systems, Artificial Intelligence (AI), and real-time flood forecasting systems.
- Integrating Disaster Risk Reduction as an essential component of local development plans.
- Promoting flood-resilient infrastructure and climate-smart agriculture.
- Implementing nature-based solutions, such as wetland conservation, floodplain restoration, and the revitalization of natural drainage systems.

Conclusion:

Viewing Assam's annual floods merely as a natural disaster would be an incomplete assessment. The dynamic nature of the Brahmaputra, Himalayan topography, natural processes such as intense monsoon rainfall and climate change, along with unplanned development, deforestation, encroachment on floodplains and limited flood management strategies have further exacerbated this crisis. The need is not merely for flood control, but for adopting a policy of "Living with Floods"—one that accords equal importance to scientific planning, ecological conservation, climate adaptation, and community participation. Only such a holistic and ecosystem-based approach can steer Assam away from the tragedy of annual floods and towards a model of climate resilience and sustainable development.

Short Issues

Transcaspian Marinka

Why in News?

Recently, the Sangno clan of the Nyishi tribe in Arunachal Pradesh launched a community-led initiative to conserve the Transcaspian marinka (*Schizothorax pelzami*), a Himalayan ray-finned fish.

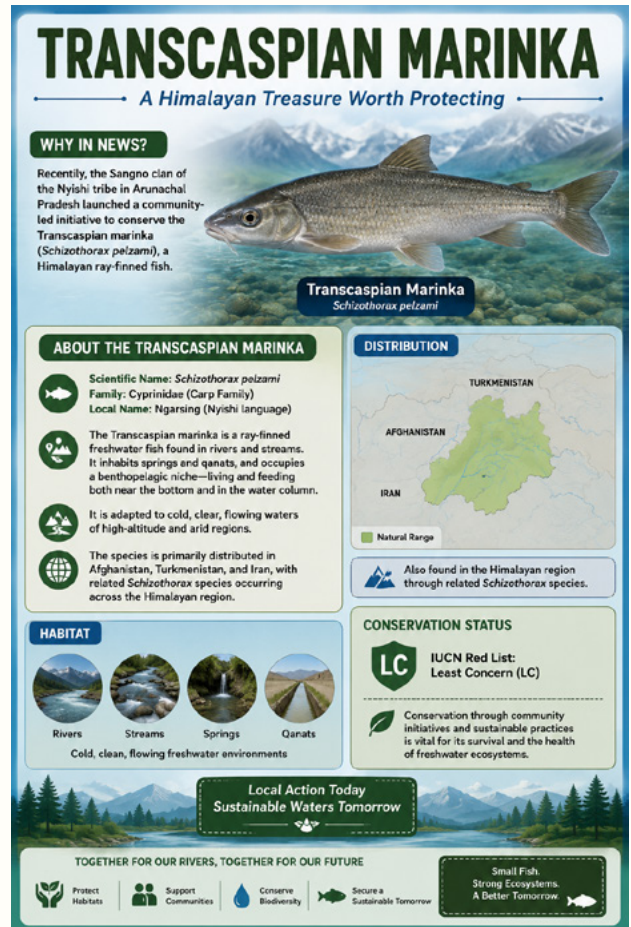
About the Transcaspian Marinka:

- The Transcaspian marinka (*Schizothorax pelzami*) is a ray-finned freshwater fish belonging to the genus *Schizothorax* under the family Cyprinidae (carp family). In Arunachal Pradesh, it is locally known as Ngarsing in the Nyishi language.
- It inhabits freshwater rivers, streams, springs, and qanats, occupying a benthopelagic niche, meaning it lives and feeds near the bottom as well as in the water column.
- The species is primarily distributed in Afghanistan, Turkmenistan, and Iran, with related *Schizothorax* species occurring across the Himalayan region.
- **Conservation Status:**
 - » **IUCN Red List:** Least Concern (LC)

Key Facts about Ray-Finned Fishes (Actinopterygii)

- Ray-finned fishes (Actinopterygians) are the largest and most diverse group of fishes, accounting for more than half of all living vertebrate species.
- Their fins are supported by bony rays (fin rays) rather than fleshy lobes.
- They inhabit a wide range of aquatic environments, including high-altitude lakes, rivers, streams, desert springs, wetlands, subterranean caves, and marine ecosystems.
- Many species exhibit migratory behaviour for breeding, feeding, or seasonal movement.
- They perceive their surroundings through multiple sensory systems, including:
 - » Vision

- » Mechanoreception (lateral line system)
- » Chemoreception (smell and taste)
- » Electoreception
- » Magnetoreception (ability to detect Earth's magnetic field)



Significance of the Conservation Initiative:

- The community-led initiative by the Sangno clan highlights the importance of indigenous knowledge and local participation in biodiversity conservation.
- By relocating the fish to a stream inaccessible to predatory mahseer and proposing a five-year ban on fishing, the initiative seeks to restore fish populations, preserve traditional community fishing practices, and promote sustainable eco-tourism activities such as eco-angling and stream-trail trekking.

Conclusion:

The conservation of the Transcaspiian marinka demonstrates how community stewardship can effectively protect freshwater biodiversity while supporting sustainable livelihoods. The initiative serves as a model for integrating traditional ecological knowledge with modern conservation strategies for the long-term protection of aquatic ecosystems.

7th Governing Body Meeting of National CAMPA

Why in News?

Recently, Union Minister for Environment, Forest and Climate Change Shri Bhupender Yadav chaired the 7th Meeting of the Governing Body of the National Compensatory Afforestation Fund Management and Planning Authority (National CAMPA) at CASFOS, Coimbatore on 10 July 2026.

Major Decisions of the meeting:

- The meeting approved a three-year extension of the MISHTI (Mangrove Initiative for Shoreline Habitats and Tangible Incomes) till 2029 with an additional Rs.500 crore, increasing the total outlay to Rs.600 crore for mangrove restoration and coastal ecosystem conservation.
- A new Aastha Van Sanrakshan Yojana was approved with an initial corpus of Rs.3,000 crore (2026–31) to conserve nearly 15,000 sacred groves (Aastha Vans) across the country. Another scheme for landscape restoration was approved to combat land degradation and biodiversity loss.

Wildlife Conservation Projects:

- The Governing Body approved four major wildlife conservation initiatives:
- Conservation and Recovery Action Plan for River Dolphins
- Project Snow Leopard Phase-II, including the second nationwide population estimation
- Conservation Action Plan for the Indian Rhinoceros

- Pan-India Conservation Strategy for the Wild Water Buffalo
- It also approved continued support for the conservation of Sangai (Brow-antlered Deer) in Manipur.



7th GOVERNING BODY MEETING OF NATIONAL CAMPA

WHY IN NEWS?

Union Minister for Environment, Forest and Climate Change Shri Bhupender Yadav chaired the 7th Meeting of the Governing Body of the National Compensatory Afforestation Fund Management and Planning Authority (National CAMPA) at CASFOS, Coimbatore on 10 July 2026.

ABOUT NATIONAL CAMPA

- National CAMPA was constituted in 2018 under the Compensatory Afforestation Fund Act, 2016 (CAF Act).
- It is a statutory body under the Ministry of Environment, Forest and Climate Change.
- It manages and utilizes the Compensatory Afforestation Fund (CAF) collected from forest diversion activities.
- Aims to promote afforestation, conservation of forests and wildlife, and sustainable management of natural resources.

7th MEETING HIGHLIGHTS

- Reviewed the overall status of CAMPA funds and utilization across States/UTs.
- Assessed progress of afforestation and conservation projects funded under CAMPA.
- Emphasized timely utilisation of funds and expeditious implementation of projects.
- Stressed on enhancing survival rate of plantations and improving ecological outcomes.
- Guided States/UTs for better planning, transparency and monitoring.

COMPENSATORY AFFORESTATION FUND (CAF)

- What is it?** CAF is the fund collected from user agencies for diversion of forest land for non-forest purposes.
- Legal Provision** Mandated under the Compensatory Afforestation Fund Act, 2016.
- Purpose** To compensate for the loss of forest cover and ensure environmental sustainability.
- Where is it used?** For afforestation, forest management, wildlife conservation and capacity building of forest departments.

FLOW OF CAMPA FUNDS

Forest Diversion by User Agency → Payment of NPV & Additional Charges → National CAMPA → Allocation to States/UTs → Implementation of Projects

ACHIEVEMENTS SO FAR

- Significant afforestation and reforestation across the country.
- Strengthened wildlife conservation and habitat improvement.
- Improved forest management with other schemes and departments.
- Capacity building of frontline forest staff and communities.
- Promotion of sustainable livelihoods in forest-dependent communities.

WAY FORWARD

- Improve quality of plantations and long-term survival.
- Use of technology for monitoring and geo-tagging of projects.
- Strengthen convergence with other schemes and departments.
- Promote community participation and eco-restoration.
- Ensure transparency, accountability and result-oriented outcomes.

ABOUT CASFOS, COIMBATORE

The meeting was held at the Centre for Advanced Studies in Forest Science (CASFOS), Coimbatore, a premier institution for research, training and capacity building in the forestry sector.

STRONGER FORESTS, SUSTAINABLE FUTURE
National CAMPA - Committed to Green India Mission

About CAMPA:

- CAMPA (Compensatory Afforestation Fund Management and Planning Authority) is a statutory authority established under the Compensatory Afforestation Fund (CAF) Act, 2016 to manage funds collected when forest land is diverted for non-forest purposes.
- It was initially constituted in 2002 by the Supreme Court in the T.N. Godavarman Thirumulpad v. Union of India case and became a statutory body after the CAF Act came into force on 30 September 2018.
- Its primary objective is to ensure ecological compensation by financing compensatory

afforestation, forest regeneration, wildlife conservation, biodiversity protection, and ecosystem restoration.

- The funds are generated through payments made by user agencies towards Compensatory Afforestation (CA), Net Present Value (NPV) of forests, and other forest diversion charges.
- Under the CAF Act, 90% of the funds are transferred to the State CAMPA, while 10% are retained in the National CAMPA for national-level conservation initiatives.
- CAMPA funds are utilized for activities such as afforestation, assisted natural regeneration, forest and wildlife management, soil and water conservation, relocation of villages from protected areas, and capacity building.
- The authority functions under the Ministry of Environment, Forest and Climate Change (MoEFCC) and plays a key role in promoting sustainable forest management, ecological restoration, biodiversity conservation, and climate resilience across India.

Conclusion:

The decisions taken at the 7th Governing Body Meeting of National CAMPA reflect India's growing emphasis on technology-driven forest governance, ecosystem restoration, and wildlife conservation. By strengthening compensatory afforestation, promoting scientific monitoring, and launching new conservation initiatives, CAMPA continues to play a crucial role in enhancing ecological security, biodiversity conservation, and climate resilience while supporting sustainable development.

Kukrail Night Safari Project

Context:

Recently, the Supreme Court approved the Uttar Pradesh government's Rs.1,510-crore Kukrail Night Safari and Day Zoo project in Lucknow. This approval clears the way for India's first night safari and the world's fifth

such facility after Singapore, Thailand, China, and Indonesia.

About the Kukrail Night Safari Project:

- The project will be developed over 855 acres inside the 2,027-hectare Kukrail Reserve Forest, combining wildlife conservation, eco-tourism, research, and environmental education. The area also houses the Kukrail Gharial Rehabilitation Centre (1975).
- **Phase I: Night Safari & Eco-tourism Zone**
 - » Nocturnal trails and natural habitats.
 - » Battery-operated visitor vehicles.
 - » Wildlife interpretation centres.
- **Phase II: Day Zoo**
 - » Modern zoo facilities.
 - » Conservation breeding and research centres.



KUKRAIL NIGHT SAFARI PROJECT
 India's First Night Safari, Lucknow's Next Wildlife Landmark

WHY IN NEWS?
 Recently, the Supreme Court approved the Uttar Pradesh government's Rs.1,510-crore Kukrail Night Safari and Day Zoo project in Lucknow. This approval clears the way for India's first night safari and the world's fifth such facility after Singapore, Thailand, China, and Indonesia.

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PROJECT IN TWO PHASES

PHASE I – NIGHT SAFARI & ECO-TOURISM ZONE

- Nocturnal trails and natural habitats
- Battery-operated visitor vehicles
- Wildlife interpretation centres

PHASE II – DAY ZOO

- Modern zoo facilities
- Conservation breeding and research centres

A UNIQUE EXPERIENCE. A WILDLIFE LEGACY.

LEOPARD, OWL, SAMBAR, GHARIAL, CIVET

MAJOR BENEFITS

- Wildlife Conservation
- Eco-Tourism Development
- Research & Education
- Local Livelihoods
- Biodiversity Protection

BY THE NUMBERS

- 855 Acres Night Safari & Zoo Area
- 1st Night Safari in India
- 5th in the World for Night Safari Facilities

PRESERVING WILDLIFE ENRICHING TOMORROWS

Unique Features:

- Unlike traditional zoos, the night safari will allow visitors to observe animals during their active hours. A special lighting system designed to mimic natural moonlight will ensure visibility while reducing disturbance to wildlife.
- The safari will include species such as Asiatic lions, Bengal tigers, leopards, hyenas, flying squirrels, and gharials. Habitats will be designed using grasslands, wetlands, and native vegetation to create a natural environment.

Ecological Importance of Kukrail Forest:

- Kukrail Reserve Forest is one of Lucknow's largest green spaces and plays an important role in maintaining urban biodiversity. Developed as a plantation forest in the 1950s, it is named after the Kukrail stream, a tributary of the Gomti River.
- The forest is also home to the Kukrail Gharial Rehabilitation Centre, which has contributed significantly to the conservation and breeding of the critically endangered gharial.

Why Did the Project Face Delays?

- The project took nearly four years for approval because it was planned within an ecologically sensitive reserve forest. It required clearances from multiple authorities, including:
 - » State Wildlife Board
 - » Central Zoo Authority (CZA)
 - » Forest and environmental authorities
 - » Supreme Court-appointed Central Empowered Committee (CEC)

Environmental and Legal Safeguards:

- The project must follow provisions of the Wild Life (Protection) Act, 1972 and guidelines of the Central Zoo Authority.
- Important safeguards include:
 - » Low-intensity lighting to protect animal circadian rhythms.
 - » No baiting or artificial attraction of

animals.

- » Controlled visitor movement through battery-operated vehicles.
- » Protection of natural habitats and wildlife behaviour.

Significance of the Project:

- The Kukrail Night Safari can boost eco-tourism, generate employment, and increase public awareness about wildlife conservation. It can also support scientific research on nocturnal species and strengthen conservation breeding programmes.
- However, maintaining a balance between tourism development and ecological protection will remain the biggest challenge.

Conclusion:

The Kukrail Night Safari is a significant step towards integrating tourism with conservation. If implemented with strict environmental monitoring and sustainable practices, it can become a model for responsible eco-tourism in India while protecting the fragile forest ecosystem.

India's First Deep Geothermal Wells at Puga Valley

Context:

Recently, India's first and deepest geothermal wells were commissioned at Puga Valley, Ladakh, by the ONGC Energy Centre. The two wells, each drilled to a depth of 1,000 metres at an altitude of over 14,000 feet, will support India's first 1 MW pilot geothermal power project. This marks a significant step towards achieving India's clean energy and Net Zero by 2070 goals.

What is Geothermal Energy?

- Geothermal energy is the heat stored beneath the Earth's crust, generated by the planet's formation and the continuous radioactive decay of minerals.

- This heat is extracted through deep wells to produce electricity, provide direct heating, or operate geothermal heat pumps for heating and cooling buildings.
- Unlike solar and wind energy, geothermal energy provides continuous (base-load) power irrespective of weather conditions.

Significance of the Puga Project:

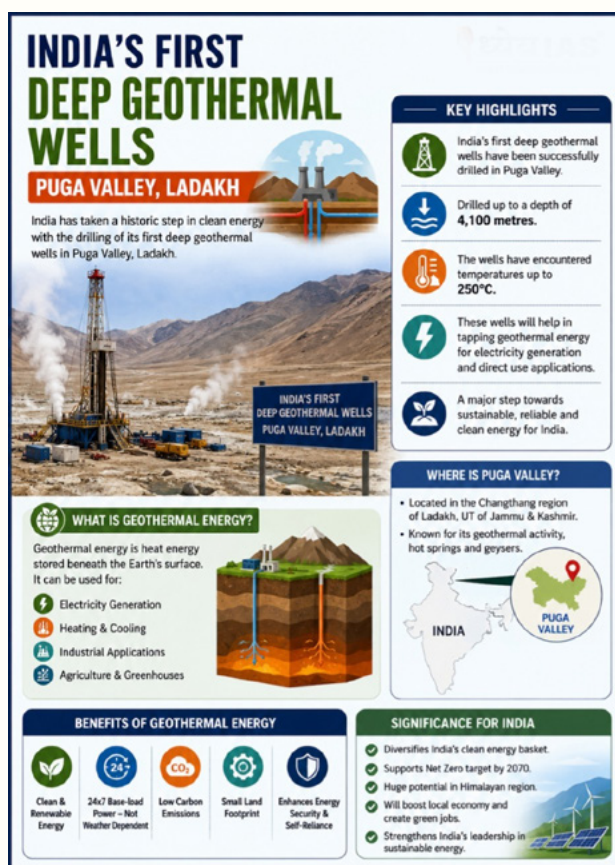
- The Puga Valley project is India's first demonstration-scale geothermal power project. Engineers recorded temperatures of around 135°C at a depth of 400 metres, indicating promising geothermal potential.
- The project is expected to facilitate reservoir evaluation, commercial geothermal exploration, and the development of indigenous expertise in high-altitude drilling.
- The initiative also strengthens Ladakh's energy security, reducing dependence on diesel-based power generation and supporting the vision of making Ladakh a carbon-neutral region.

Advantages of Geothermal Energy:

- Renewable and sustainable source of energy.
- Low greenhouse gas emissions compared to fossil fuels.
- Provides uninterrupted 24×7 electricity.
- Requires relatively less land than many other renewable energy sources.
- Suitable for remote and mountainous regions like Ladakh.

Challenges:

- Despite its advantages, geothermal energy faces several constraints:
 - » High exploration and drilling costs.
 - » Limited availability of economically viable geothermal reservoirs.
 - » Technical challenges due to difficult terrain and extreme climatic conditions.
 - » Need for advanced drilling technology and skilled manpower.



Way Forward:

- India should accelerate geothermal resource mapping, promote public-private partnerships, develop dedicated geothermal policies, and encourage research in drilling technologies.
- Integrating geothermal energy with solar and wind can improve energy reliability and diversify the renewable energy mix.

Conclusion:

The commissioning of India's first deep geothermal wells at Puga Valley represents a historic milestone in the country's clean energy journey. Beyond electricity generation, the project demonstrates India's technological capability, enhances energy security, and contributes to sustainable development. If successfully scaled up, geothermal energy can emerge as an important component of India's renewable energy portfolio and support

the nation's long-term climate and energy objectives.

Persistent Organic Pollutants (POPs): Stockholm Convention

Context:

Recently, The United Nations Environment Programme (UNEP) and the Global Environment Facility (GEF) have launched the US\$ 23.5 million Global Chemicals Monitoring Programme (GCMP).

Objective of the programme:

- The programme aims to strengthen global monitoring of hazardous chemicals and evaluate the effectiveness of the Stockholm Convention on Persistent Organic Pollutants (POPs) and the Minamata Convention on Mercury. This initiative will help countries improve chemical monitoring, generate reliable environmental data, and strengthen efforts to protect human health and the environment.

What are Persistent Organic Pollutants?

- Persistent Organic Pollutants (POPs) are toxic, carbon-based, human-made chemical substances that resist environmental degradation and remain in the environment for many years.
- Due to their persistence, they spread over long distances through air, water, and soil, crossing international boundaries. POPs accumulate in living organisms and become more concentrated at higher levels of the food chain, posing serious risks to biodiversity and human health.

Key Characteristics of POPs:

- According to the Stockholm Convention, POPs possess four major characteristics:
 - » **Persistence:** They remain intact for exceptionally long periods.
 - » **Long-range Environmental Transport:** They travel across regions through air,

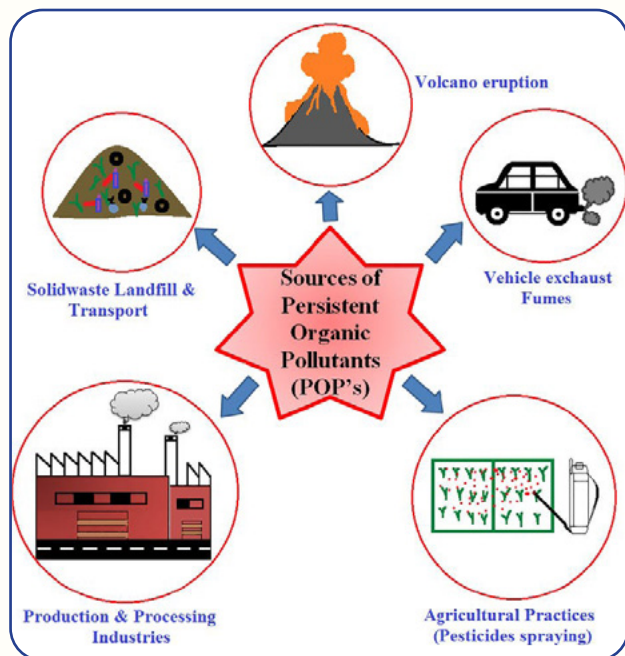
water, and soil.

- » **Bioaccumulation:** They accumulate in the fatty tissues of living organisms.
- » **Toxicity:** They adversely affect humans, wildlife, and ecosystems even at low concentrations.



Health and Environmental Impacts:

- POPs are associated with a wide range of health problems, including cancer, allergies, reproductive disorders, immune system suppression, and damage to the central and peripheral nervous systems.
- Many POPs also function as endocrine disruptors, interfering with hormonal systems and affecting reproduction, fetal development, and immunity. Through the process of biomagnification, POP concentrations increase at successive trophic levels, making top predators, including humans, the most vulnerable.



Common Examples of POPs:

- According to the World Health Organization (WHO), major POPs include organochlorine pesticides such as DDT, industrial chemicals like Polychlorinated Biphenyls (PCBs), and unintended industrial by-products such as dioxins (PCDDs) and furans (PCDFs). These chemicals originate from pesticides, industrial production, waste incineration, and other manufacturing activities.

Stockholm Convention on POPs:

- The Stockholm Convention, adopted in 2001 and effective from 2004, is a global treaty aimed at protecting human health and the environment by eliminating or restricting the production, use, and release of POPs.
- The Convention also promotes environmentally sound management and disposal of POP-containing wastes. India is a Party to the Convention and has taken measures to regulate several listed POPs.

Significance of GCMP:

- The newly launched Global Chemicals Monitoring Programme (GCMP) will strengthen national monitoring capacities, improve scientific data collection, and

support countries in assessing compliance with global environmental conventions.

- The programme will enhance international cooperation in chemical management and contribute to achieving sustainable development and a pollution-free environment.

Conclusion:

Effective implementation of the Stockholm Convention and initiatives like the GCMP are crucial for reducing POP pollution and protecting human health and the environment.

Centre Reissues Draft Notification on Western Ghats Eco-Sensitive Area (ESA)

Context:

Recently, The Union Ministry of Environment, Forest and Climate Change (MoEFCC) has reissued, for the seventh time, the draft notification proposing an Ecologically Sensitive Area (ESA) in the Western Ghats after the previous draft lapsed in July 2026.

What is the Draft Notification?

- The draft notification seeks to protect ecologically fragile areas of the Western Ghats, one of the world's richest biodiversity hotspots, by declaring them as an Ecologically Sensitive Area (ESA).
- Once finalized, the notification will:
 - » Prohibit mining, quarrying, sand mining, new thermal power plants, red-category polluting industries, and large construction projects.
 - » Regulate activities such as hydropower projects and infrastructure development.
 - » Permit agriculture, plantations, horticulture, organic farming, and other sustainable livelihood activities.
- The latest notification will remain open for 60 days for public objections before the Centre considers issuing the final notification. It retains the proposed ESA at 56,825.7

sq. km across Gujarat, Maharashtra, Goa, Karnataka, Kerala, and Tamil Nadu, highlighting the Centre's continuing efforts to balance ecological conservation with the developmental concerns of the States.

Extent of the Proposed ESA:

- The proposed 56,825.7 sq. km ESA is distributed among six Western Ghats States as follows:
 - » **Karnataka:** 20,668 sq. km
 - » **Maharashtra:** 17,340 sq. km
 - » **Kerala:** 9,993.7 sq. km
 - » **Tamil Nadu:** 6,914 sq. km
 - » **Goa:** 1,461 sq. km
 - » **Gujarat:** 449 sq. km
- These areas are based largely on the recommendations of the Kasturirangan Committee, with modifications made after State-level consultations.

Centre Reissues Draft Notification on Western Ghats Eco-Sensitive Area (ESA)

Balancing Ecology, Livelihoods and Sustainable Development

About Western Ghats

-  UNESCO World Heritage Site (2012)
-  Biodiversity hotspot with rich flora and fauna
-  Source of major peninsular rivers (Godavari, Krishna, Cauvery etc.)
-  Home to millions of people, including tribal communities

Western Ghats ESA – Proposed Extent



Draft Notification – Key Features


Ecologically Sensitive Zones
 Identification of vulnerable areas in the Western Ghats.


Regulation of Development Activities
 Restrictions on certain projects to prevent ecological degradation.


Conservation of Biodiversity
 Protection of endemic species and fragile ecosystems.


Sustainable Livelihoods
 Promotion of eco-friendly activities and support for local communities.

Significance

-  Conserves rich biodiversity and endemic species.
-  Protects water security for millions living downstream.
-  Strengthens climate change resilience.
-  Ensures sustainable development and livelihood security for local communities.

Key Concerns

-  Frequent reissues and delays in final notification.
-  Need to balance conservation goals with the rights and livelihoods of local people.
-  Avoiding over-regulation that may hinder responsible development.
-  Ensuring long-term ecological protection without social and economic disruption.

 **The goal is to achieve a balanced approach – conserving the Western Ghats's ecological richness while ensuring sustainable growth and the well-being of local communities.**

What is an Ecologically Sensitive Area?

- An Ecologically Sensitive Area (ESA)—also known as an Eco-Sensitive Zone (ESZ)—is a buffer zone notified by the Central Government around Protected Areas to act as a shock absorber, protecting fragile ecosystems from environmentally destructive human activities while promoting sustainable development.

Legal and Institutional Framework:

- **Statutory Basis:** Notified by the Ministry of Environment, Forest and Climate Change (MoEFCC) under Section 3(2)(v) of the Environment (Protection) Act, 1986, read with Rule 5 of the Environment (Protection) Rules, 1986.
- **Extent:** Generally extends up to 10 km around National Parks and Wildlife Sanctuaries, though the boundary may vary depending on ecological requirements and wildlife corridors.
- **Supreme Court Direction (2022):** Mandated a minimum 1-km Eco-Sensitive Zone around all National Parks and Wildlife Sanctuaries across India unless site-specific circumstances justify otherwise.

About Western Ghats:

- The Western Ghats, also known as the Sahyadri Hills, extend for nearly 1,600 km from the Tapti River in Gujarat to Kanyakumari in Tamil Nadu, covering six States.
- **The region is:**
 - » A UNESCO World Heritage Site.
 - » One of the world's eight "hottest" biodiversity hotspots.
 - » Home to numerous endemic species such as the Lion-tailed Macaque and Nilgiri Tahr.
 - » The origin of major peninsular rivers including the Godavari, Krishna, and Kaveri.
 - » A major regulator of the southwest monsoon and India's water security.

- However, it faces increasing threats from mining, deforestation, plantation expansion, urbanization, and infrastructure development.

Major Committees on Western Ghats:

- **Madhav Gadgil Committee (WGEEP), 2011**
 - » Recommended declaring the entire Western Ghats (1,29,037 sq. km) as an Ecologically Sensitive Area.
 - » Proposed three ecological zones with graded protection and stringent restrictions on mining, dams, and industries.
 - » Recommended creating a Western Ghats Ecology Authority.
 - » Faced strong opposition from States for being overly restrictive.
- **Kasturirangan Committee (HLWG), 2013**
 - » Adopted a balanced approach by recommending that only 37% of the Western Ghats (about 56,825–60,000 sq. km) comprising the natural landscape be notified as an ESA.
 - » Distinguished between natural landscapes and cultural landscapes (villages and plantations).
 - » Proposed banning mining, quarrying, and polluting industries while allowing agriculture and plantation activities to continue.
 - » Forms the basis of the present draft notification.
- **Sanjay Kumar Committee (2022)**
 - » Constituted to examine State-level objections.
 - » Reviewing village-wise boundaries and conducting field verification before finalization of the ESA.

Significance:

- The proposed ESA notification seeks to achieve a balance between environmental conservation and sustainable development. Protecting the Western Ghats is vital for biodiversity conservation, climate resilience, water security, ecological connectivity, and

reducing human-wildlife conflicts. At the same time, continued consultations with States reflect the importance of cooperative federalism in environmental governance.

Conclusion:

The repeated reissuance of the Western Ghats ESA notification underscores the challenge of balancing ecological conservation with economic development. A science-based, participatory, and cooperative approach is essential to protect this globally significant ecosystem while ensuring sustainable livelihoods for local communities.

Environmental Performance Index (EPI) 2026

Context:

Recently, the Environmental Performance Index (EPI) 2026 was released, in which India is ranked 176th among 177 countries.

What is the Environmental Performance Index (EPI)?

- The Environmental Performance Index is a biennial, data-driven assessment developed by the Yale Center for Environmental Law & Policy (YCELP), the Center for International Earth Science Information Network (CIESIN), Columbia University, and the Yale Center for Geospatial Solutions, with support from the McCall MacBain Foundation.
- It provides a scientific framework for comparing countries' environmental performance and helps policymakers identify strengths, weaknesses, and areas requiring policy intervention.

Key Features of Environmental Performance Index (EPI) 2026:

- The 2026 edition evaluates 177 countries using 47 indicators grouped into 12 issue categories under three broad policy objectives:
 - » Environmental Health

- » Ecosystem Vitality
- » Climate Change Mitigation
- The indicators assess critical areas such as air quality, water resources, sanitation, biodiversity conservation, sustainable forestry, fisheries, agriculture, waste management, and greenhouse gas emissions. The EPI acts as an objective scorecard to monitor progress toward global environmental commitments.



Major Findings:

- The EPI 2026 reveals a strong relationship between economic prosperity and environmental performance, with a correlation coefficient of 0.69 between national income and EPI scores. However, effective governance enables several middle-income countries to outperform wealthier nations.
- The top five countries are:
 - » Estonia
 - » Luxembourg
 - » United Kingdom
 - » Finland
 - » Netherlands
 - » Laos ranked last with a score of 21.78.

India's Performance:

- India secured the 176th rank with an overall score of 22.46, significantly below the regional average of 31.81. The report highlighted concerns such as tree cover loss in key biodiversity areas, reflecting

pressures on forests and ecosystems.

- Although India's ranking improved from 180th out of 180 countries in 2022, its environmental performance remains among the weakest globally.

Conclusion:

The Environmental Performance Index 2026 highlights the growing importance of evidence-based environmental governance in achieving sustainable development. While India's low ranking has reignited debates over the index's methodology, it also underscores the need to strengthen environmental data systems, improve ecological conservation, and accelerate climate action.

India Allows Direct Use of Anhydrous Ammonia in Agriculture

Context:

Recently, The Government of India has approved the manufacture and direct agricultural use of Anhydrous Ammonia (NH_3) under the Fertiliser (Inorganic, Organic or Mixed) (Control) Order, 1985 for a three-year trial period beginning 23 July 2026.

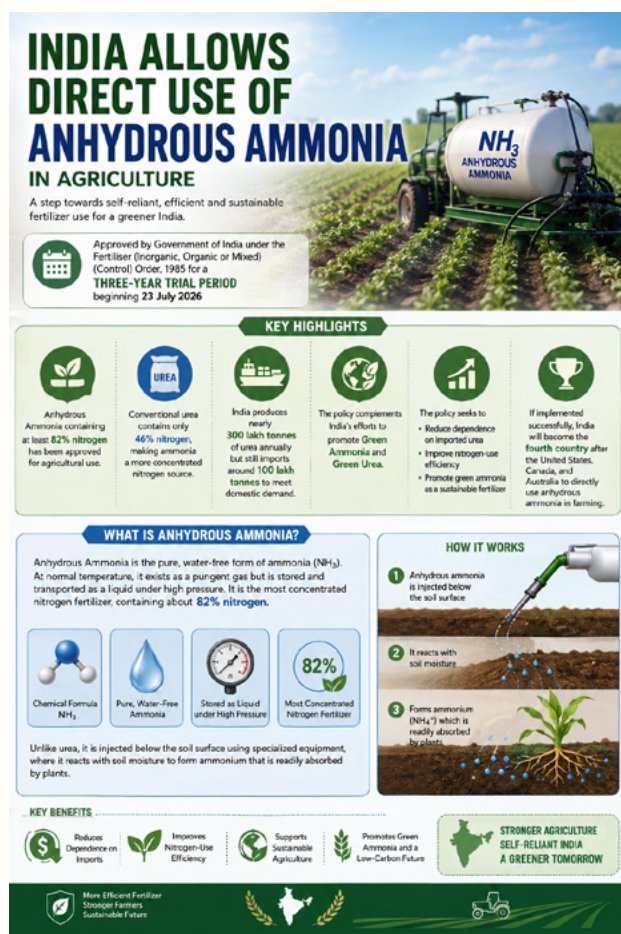
Key Highlights:

- Anhydrous Ammonia containing at least 82% nitrogen has been approved for agricultural use.
- Conventional urea contains only 46% nitrogen, making ammonia a more concentrated nitrogen source.
- India produces nearly 300 lakh tonnes of urea annually but still imports around 100 lakh tonnes to meet domestic demand.
- The policy complements India's efforts to promote Green Ammonia and Green Urea.
- The policy seeks to reduce dependence on imported urea, improve nitrogen-use efficiency, and promote green ammonia as a sustainable fertilizer.
- If implemented successfully, India will

become the fourth country after the United States, Canada, and Australia to directly use anhydrous ammonia in farming.

What is Anhydrous Ammonia?

- Anhydrous Ammonia is the pure, water-free form of ammonia (NH_3). At normal temperature, it exists as a pungent gas but is stored and transported as a liquid under high pressure.
- It is the most concentrated nitrogen fertilizer, containing about 82% nitrogen. Unlike urea, it is injected below the soil surface using specialized equipment, where it reacts with soil moisture to form ammonium that is readily absorbed by plants.



INDIA ALLOWS DIRECT USE OF ANHYDROUS AMMONIA IN AGRICULTURE

A step towards self-reliant, efficient and sustainable fertilizer use for a greener India.

Approved by Government of India under the Fertiliser (Inorganic, Organic or Mixed) (Control) Order, 1985 for a **THREE-YEAR TRIAL PERIOD** beginning 23 July 2026

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HOW IT WORKS

- 1 Anhydrous ammonia is injected below the soil surface
- 2 It reacts with soil moisture
- 3 Forms ammonium (NH_4^+) which is readily absorbed by plants

KEY BENEFITS

- Reduces Dependence on Imports
- Improves Nitrogen-Use Efficiency
- Supports Sustainable Agriculture
- Promotes Green Ammonia and a Low-Carbon Future

STRONGER AGRICULTURE SELF-RELIANT INDIA A GREENER TOMORROW

More Efficient Fertilizer Stronger Farmers Sustainable Future

due to greater nitrogen concentration.

- » Reduced dependence on imported urea and natural gas, improving fertilizer security.
- » Lower fertilizer subsidy burden by reducing urea production costs.
- » Supports the National Green Hydrogen Mission by encouraging production and use of Green Ammonia.
- » Promotes sustainable agriculture and strengthens India's goal of Atmanirbhar Bharat in fertilizers.

Challenges:

Despite its benefits, widespread adoption faces several hurdles:

- **Infrastructure Gap:** India lacks adequate storage facilities, transport systems, and ammonia injection equipment.
- **Safety Risks:** Anhydrous ammonia is a toxic and corrosive gas requiring strict handling and safety protocols.
- **Complex Application:** It must be injected beneath the soil, unlike urea, making mechanized application essential.
- **Small Landholdings:** India's fragmented farms make adoption difficult without shared machinery and institutional support.
- **High Investment:** A large-scale green ammonia plant requires investments of Rs.13,000–15,000 crore.

Conclusion:

The approval of anhydrous ammonia marks a significant shift in India's fertilizer policy. By improving nitrogen efficiency, reducing import dependence, and supporting green hydrogen initiatives, the reform can transform Indian agriculture. However, success will depend on robust infrastructure, effective safety measures, and widespread farmer awareness to ensure sustainable and efficient adoption.

Significance:

- The approval offers several advantages:
 - » Higher Nitrogen Use Efficiency (NUE)



Science & Technology



Mission Aagaman: A New Chapter in India's Private Orbital Rocket

Context:

Recently, Hyderabad-based space-tech startup Skyroot Aerospace successfully launched its first fully orbital private rocket, Vikram-1, under 'Mission Aagaman'. This launch is not merely a technological achievement; it demonstrates that India is now prepared to establish a significant presence in the global commercial space market.

After the United States and China, India has become the third country in the world where the private sector possesses a full-fledged orbital launch capability. This development reflects an emerging balance between the evolving role of the Indian Space Research Organisation (ISRO) and the growing participation of private entrepreneurship in India's space sector.

Historical Background: Journey from 'Prarambh' to 'Aagaman':

The evolution of India's private space sector has followed a planned and phased trajectory:

- **November 2022:** Mission Prarambh: Skyroot launched Vikram-S, India's first privately developed sub-orbital rocket. It was primarily a Technology Demonstrator, establishing that India's private sector possessed the basic technological capability to design and develop rockets.
- **Current Phase:** Mission Aagaman: The launch of Vikram-1 represents a full-fledged orbital mission. There is a fundamental difference

between sub-orbital and orbital missions. A sub-orbital mission crosses or approaches the boundary of space, generally associated with the Kármán Line, before returning to Earth. In contrast, an orbital mission requires a launch vehicle not only to carry a satellite to the required altitude but also to provide sufficient horizontal velocity so that it can remain in a stable orbit around the Earth. In Low Earth Orbit (LEO), this orbital velocity is generally around 7.8 km/s. Vikram-1 has successfully overcome this complex technological challenge.

Vikram-1 Rocket: Technical Features and Capabilities

The region extending up to approximately 2,000 km above the Earth's surface is generally referred to as Low Earth Orbit (LEO). Vikram-1 has been designed as a combination of modern engineering and cost-effective technologies. Its major features include:

- **Multi-stage Propulsion System:** Vikram-1 is a multi-stage launch vehicle powered primarily by solid fuel, while its final stage uses liquid fuel. This combination provides greater precision and reliability to the rocket.
- **Advanced Construction Materials:** The rocket structure extensively uses carbon-fibre composites. These materials are extremely lightweight and significantly stronger than conventional materials such as steel or

aluminium, thereby improving the rocket's payload-carrying efficiency.

- **Advanced Manufacturing Technology:** Skyroot has used advanced manufacturing technologies such as 3D printing in the production of rocket engines and associated systems. This helps reduce the number of components, manufacturing time and potentially the overall cost.
- **Payload Capacity and Target Orbit:** Vikram-1 has been designed to place approximately 300–500 kg of payload, including satellites, into Low Earth Orbit (LEO). It primarily targets the rapidly expanding nano- and micro-satellite market.

Policy Reforms & Institutional Framework:

- **Liberalisation of the Space Sector (2020):** In 2020, the Government of India opened the space sector to private companies. The reforms aim to increase private-sector participation while enabling ISRO to focus more on advanced space technologies, research and development, and strategic and scientific missions. According to information provided in Parliament in July 2026, investment in India's private space sector has exceeded \$618.5 million.
- **Establishment of IN-SPACe:** The Indian National Space Promotion and Authorization Center (IN-SPACe) was established as a single-window regulatory and facilitation agency. It enables private companies to access ISRO's world-class infrastructure, including facilities such as the Sriharikota launch complex and various testing centres.
- **Indian Space Policy 2023:** The policy clearly defined the role of Non-Government Entities (NGEs) in India's space ecosystem. It allows private entities to undertake end-to-end space activities, including rocket manufacturing, satellite operations and data reception.
- **100% Foreign Direct Investment (FDI):** The government has liberalised FDI regulations in the space sector, including satellite manufacturing, launch vehicles and components, making it easier for global

capital to enter India's space industry.

Global Small Satellite Market and India:

The global space economy is currently valued at approximately \$400–500 billion, while India accounts for only around 2% of this market. The Government of India aims to increase the country's share to 10% over the next decade. Vikram-1 can play an important role in achieving this objective for the following reasons:

- **Growing Demand for 'Launch-on-Demand':** Thousands of small satellites are being launched worldwide for broadband internet services, agricultural monitoring, disaster management and other applications. Large rockets such as GSLV or Falcon 9 can be expensive or less flexible for small satellite operators, as smaller payloads may have to wait for suitable rideshare opportunities alongside larger missions.
- **Cost Efficiency:** Small and dedicated launch vehicles such as Vikram-1 can provide startups, academic institutions and other satellite operators with comparatively affordable and on-demand launch services.
- **Potential for Mass Production:** Such rockets can potentially be manufactured and assembled within shorter timelines, enabling companies such as Skyroot to develop the capacity for multiple launches annually.

Benefits of Private Sector Participation

The entry of private companies into the space sector can generate significant strategic and economic benefits for India:

- **Strategic Focus for ISRO:** As private companies assume a larger role in commercial satellite launches, ISRO can devote greater resources to deep-space and advanced missions, including Gaganyaan, future phases of Chandrayaan, Shukrayaan and future Mars missions.
- **Reverse Brain Drain:** The expansion of India's private space-tech ecosystem is creating new opportunities for scientists and aerospace engineers in high-technology employment and entrepreneurship within the country. This could help reduce talent

migration and potentially attract skilled Indian professionals working abroad.

- **Employment and Industrial Ecosystem:** The development of a rocket involves hundreds of Micro, Small and Medium Enterprises (MSMEs) across different stages of the supply chain. Expansion of private space activities can therefore contribute to the creation of a strong high-tech manufacturing ecosystem in India.

Challenges:

- **High Capital Requirement and Risk:** Space activities are highly capital-intensive and involve considerable technological risks. A single failed launch can significantly affect investor confidence in a startup. Private space companies therefore require access to long-term and sustained patient capital.
- **Insurance and Civil Liability:** In case of an accident in outer space, or if a satellite damages the property of another country, the launching state may bear international responsibility under treaties such as the Liability Convention, 1972. India therefore needs to further strengthen its domestic legal, liability and insurance framework for private space operators.
- **Global Competition:** International companies such as SpaceX and Rocket Lab already have a strong presence in the commercial launch market. Competing with their established reliability, technological capabilities and competitive costs will remain a major challenge for Indian startups.
- **Space Debris:** The launch of thousands of small satellites into LEO is increasing concerns regarding space debris, which could pose serious risks to future space missions and orbital infrastructure.

Way Forward:

- **Sovereign Funding and Anchor Customers:** The US government, particularly NASA, played an important role as a major customer of SpaceX during its early years. Similarly, the Government of India and defence establishments, including the

Defence Space Agency, should consider providing suitable government projects to domestic private space companies as anchor customers, helping them achieve greater financial stability.

- **Technology Transfer:** ISRO should facilitate greater transfer of its mature and reliable technologies, including appropriate technologies associated with platforms such as the PSLV, to private industries. This can enable domestic companies to develop and manufacture commercial variants and strengthen India's launch ecosystem.
- **Comprehensive Space Law:** India needs a comprehensive domestic space law that clearly codifies issues such as liability of private operators, Intellectual Property Rights (IPR), licensing, insurance requirements and safety standards.

Conclusion:

The successful launch of Vikram-1 marks a historic turning point in India's space journey. A new space ecosystem is emerging in the country where the government, ISRO, private industries, startups, investors and academic institutions can work together. Mission Aagaman demonstrates that an enabling public policy framework, combined with the innovation and entrepreneurial capabilities of the private sector, can help India emerge as a major force in the global space economy.

Short Issues

White Gut Disease in Shrimp

Why in News?

Recently, The Andhra Pradesh Fisheries Department has issued an alert over the outbreak of White Gut Disease (WGD), also known as White Feces Disease (WFD), in shrimp farms.

What is White Gut Disease (WGD)?

- White Gut Disease (WGD), or White Feces Disease (WFD), is a significant health disorder affecting cultured shrimp, particularly the Pacific White Shrimp (*Litopenaeus vannamei*).
- The disease is characterised by the presence of floating white faecal strings in ponds and is associated with poor gut health.
- It is considered a multifactorial disease, resulting from a combination of pathogens, poor water quality, stress, and inadequate farm management rather than a single infectious agent.

Symptoms:

- Shrimp affected by WGD exhibit several characteristic symptoms, including:
 - » Reduced feed intake and loss of appetite.
 - » Stunted growth and poor weight gain.
 - » Brown or damaged intestines with white faecal strings.
 - » Soft or loose shells.
 - » Poor survival and reduced productivity.
- If left unmanaged, the disease can lead to significant economic losses for shrimp farmers.

Preventive Measures:

Farmers have been advised to:

- Maintain good pond hygiene and water quality.
- Follow strict biosecurity measures.
- Use certified, disease-free shrimp seed and quality feed.
- Regularly monitor shrimp health and water parameters.

- Report unusual symptoms to fisheries officials at the earliest.

Institutional Support:

- The State Government is working in collaboration with the following institutions to monitor the disease outbreak, strengthen disease surveillance, and enhance awareness among farmers:
 - » Marine Products Export Development Authority (MPEDA)
 - » ICAR–Central Institute of Brackishwater Aquaculture (ICAR-CIBA)
 - » ICAR–National Bureau of Fish Genetic Resources (ICAR-NBFGR)
 - » State Institute of Fisheries Technology (SIFT)
 - » Andhra Pradesh Fisheries University
 - » National Surveillance Programme for Aquatic Animal Diseases (NASPAAD)

Shrimp Farming in India:

- Shrimp farming is a major pillar of India's agricultural export economy, with the Pacific White Shrimp (*Litopenaeus vannamei*) accounting for the bulk of production. India is one of the world's largest exporters of farmed shrimp, with Andhra Pradesh contributing the largest share of national shrimp production and exports. The sector supports the livelihoods of millions of farmers, workers, and allied industries.
- Despite its strong export performance, the industry faces several challenges, including disease outbreaks, dependence on imported broodstock, fluctuations in global demand, tariff-related uncertainties, and stringent food safety and traceability standards imposed by major export destinations such as the United States, China, the European Union, and Japan.

Key Government Initiatives:

To promote sustainable aquaculture and enhance the global competitiveness of India's shrimp sector, the Government has launched several initiatives:

- **Pradhan Mantri Matsya Sampada Yojana (PMMSY):** A flagship scheme aimed at the sustainable development of the fisheries sector through support for quality shrimp production, post-harvest infrastructure, cold-chain development, value addition, branding, and capacity building.
- **Sustainable Aquaculture in Mangrove Ecosystem (SAIME):** A community-based initiative that integrates environmentally sustainable shrimp farming with mangrove conservation and restoration, particularly in the Sundarbans region of West Bengal.
- **SHAPHARI Certification:** Introduced by the Marine Products Export Development Authority (MPEDA), this certification ensures that aquaculture products are antibiotic-free, traceable, and produced according to international quality standards, thereby improving market access and consumer confidence.
- **Nuclear Breeding Centres:** The Government is establishing a network of breeding centres to develop indigenous, disease-resistant shrimp broodstock, reducing dependence on imported, pathogen-prone broodstock and strengthening biosecurity.

Conclusion:

The outbreak highlights the importance of aquaculture biosecurity, aquatic animal health management, and sustainable fisheries in ensuring food security, export competitiveness and the livelihoods of coastal communities. It also underscores the role of coordinated institutional efforts in preventing disease outbreaks and promoting resilient blue economy practices.

Gaganyaan Mission: ISRO Successfully Conducts First SOLVE Ground Test

Why in News?

Recently, The Indian Space Research

Organisation (ISRO) successfully conducted the first ground test of the Sub-Orbital Launch Vehicle for Experiments (SOLVE) solid motor at the Static Test Facility, Satish Dhawan Space Centre (SDSC), Sriharikota. The test marks another important milestone in India's flagship Gaganyaan Human Spaceflight Programme.

What is SOLVE?

- SOLVE (Sub-Orbital Launch Vehicle for Experiments) is a specialized solid-motor test vehicle developed by the Indian Space Research Organisation (ISRO) to validate critical technologies for the Gaganyaan Human Spaceflight Programme.
- It serves as a dedicated platform for testing the Crew Module's integrated parachute system and recovery sequence under realistic flight conditions before crewed missions.
- During a SOLVE mission, the uncrewed Crew Module is carried to an altitude of 10–17 km, where it separates from the launch vehicle.
- A carefully sequenced deployment of 10 parachutes then slows the module's descent, ensuring a controlled splashdown in the sea. These tests help verify the reliability of the deceleration and recovery systems, which are essential for astronaut safety.

Significance of the test:

- The successful test strengthens confidence in the Crew Module's recovery system, one of the most critical safety aspects of any human spaceflight mission.
- It provides ISRO with a flexible platform to conduct multiple qualification tests under different mission scenarios, reducing risks before the launch of astronauts.
- Along with recent tests like Integrated Air Drop Test (IADT-02) and Mission MITRA, the SOLVE test reflects steady progress toward India's first indigenous human spaceflight.

About the Gaganyaan Mission:

- Gaganyaan is ISRO's first human spaceflight programme aimed at sending

three astronauts to Low Earth Orbit (about 400 km) for a mission of up to seven days, followed by a safe splashdown in Indian waters.

- The mission will be launched using the Human-Rated LVM3 (HLVM3) rocket.
- The spacecraft comprises a Crew Module and a Service Module, supported by an Environmental Control and Life Support System (ECLSS) and a Crew Escape System (CES) for astronaut safety. Before the crewed mission, ISRO will conduct uncrewed flights, including one carrying the humanoid robot Vyommitra.
- The four astronaut-designates are Group Captain Prasanth Balakrishnan Nair, Group Captain Ajit Krishnan, Group Captain Angad Pratap, and Wing Commander Shubhanshu Shukla.



Conclusion:

The successful SOLVE ground test represents another significant step toward realizing India's human spaceflight ambitions. By

validating critical recovery technologies, it enhances mission safety and reliability while strengthening India's technological capabilities. The Gaganyaan programme will not only place India among the select nations with independent human spaceflight capability but also support future space exploration missions and the development of an indigenous space ecosystem.

New Discovery by IIT Bombay in the Pharmaceutical Manufacturing Sector

Context:

Recently, researchers from the Department of Chemistry at the Indian Institute of Technology (IIT) Bombay have made a significant breakthrough in pharmaceutical science that could make drug manufacturing faster, more cost-effective, and environmentally sustainable in the future. The research has been published in the prestigious international journal Nature.

About the Discovery:

- Many naturally occurring medicinal and commercial products possess complex ring-shaped molecular structures. Until now, converting simple carbon compounds (such as fatty acids) directly into these complex ring structures has been a difficult, time-consuming, and multi-step process.
- The IIT Bombay research team has developed a custom chemical entity (special catalyst) that can identify a specific carbon atom within a long carbon chain and transform the entire chain into a ring-shaped molecule.
- This chemical process is technically known as Ligand-enabled Distal Desaturative Lactonization. The technology enables the synthesis of complex molecules in a single-step process, significantly simplifying chemical manufacturing.

Industrial Applications:

This breakthrough extends far beyond laboratory research and has wide-ranging commercial and

industrial applications:

- **Pharmaceutical Industry:** Complex anticancer compounds (such as Muricatacin) and other life-saving drugs can now be synthesized more quickly and at significantly lower costs.
- **Perfumery and Fragrance Industry:** Many natural fragrance compounds possess ring-shaped molecular structures. This technology will facilitate the artificial production of expensive fragrance ingredients.
- **Agrochemicals:** It can support the development of environmentally friendly and targeted pesticides and fertilizers.
- **Green Chemistry:** By reducing the number of reaction steps, the technology significantly lowers industrial waste generation and the emission of harmful by-products.

pharmaceutical manufacturing.

- **Modernization of Traditional Medicine (Ayurveda):** India possesses a rich heritage of traditional medicinal knowledge. This technology can help synthesize complex bioactive molecules present in Ayurvedic herbs and natural products, facilitating their development into modern pharmaceutical drugs.
- **Affordable Healthcare:** Lower manufacturing costs will make life-saving medicines more affordable and accessible to the general public, contributing significantly to the achievement of Sustainable Development Goal (SDG)-3: Good Health and Well-being.

Existing Challenges in India's Pharmaceutical Sector:

Although India is known as the "Pharmacy of the World," the pharmaceutical industry continues to face several structural challenges:

- **Dependence on Imported APIs:** India is the world's largest producer of generic medicines, yet it still depends on China for nearly 70–80% of its Active Pharmaceutical Ingredients (APIs).
- **Low Investment in Research and Development (R&D):** Compared to global pharmaceutical giants, Indian companies focus primarily on generic medicines rather than new drug discovery, as pharmaceutical R&D requires substantial investment and involves high risk.
- **Quality and Regulatory Challenges:** Global regulatory agencies such as the U.S. Food and Drug Administration (USFDA) frequently adopt a stringent approach toward quality compliance issues at Indian pharmaceutical manufacturing facilities.
- **Drug Price Control Policies:** Government regulation of essential medicine prices under the Drug Price Control Order (DPCO) reduces profit margins, limiting pharmaceutical companies' ability to invest in research and innovation.



New Discovery by IIT Bombay
 in the Pharmaceutical Manufacturing Sector
 A Breakthrough in Chemistry for Faster, Greener and Cost-Effective Drug Manufacturing

THE BREAKTHROUGH
 Researchers from the Department of Chemistry, IIT Bombay, have developed a custom catalyst that can convert simple carbon compounds directly into complex ring-shaped molecules—in a single step. The discovery is published in the prestigious international journal *Nature*.

WHAT IS THE DISCOVERY?
 Many natural and commercial products have complex ring-shaped molecular structures. Making these rings from simple carbon compounds has been difficult and typically requires multiple reaction steps.

The catalyst identifies a specific carbon atom in the long chain and converts the entire chain into a ring in one step!

This unique process is called **Ligand-enabled Distal Desaturative Lactonization**

Significance of the Discovery:

- **Self-Reliance in the Pharmaceutical Sector:** This indigenous technology developed by IIT Bombay could become a milestone in reducing India's dependence on China for Active Pharmaceutical Ingredients (APIs) and strengthening self-reliance in

Union Government Bans Paraquat

Context:

Recently, the Union Ministry of Agriculture and Farmers' Welfare has notified a nationwide ban on paraquat dichloride, a highly toxic herbicide linked to thousands of deaths due to suicide, accidental poisoning, and homicide in India.

What is Paraquat?

- Paraquat dichloride is a non-selective, fast-acting contact herbicide widely used to control weeds and grasses. It is commonly sprayed after harvesting to clear agricultural fields before sowing the next crop.
- It is also used for crop desiccation, particularly in crops such as cotton, to dry plants before harvesting.
- Paraquat destroys plant tissues by generating free radicals that damage cell membranes and interrupt photosynthesis.
- Although it becomes inactive after contact with soil and leaves minimal soil residues, it is extremely dangerous during handling and application.

Why Has Paraquat Been Banned?

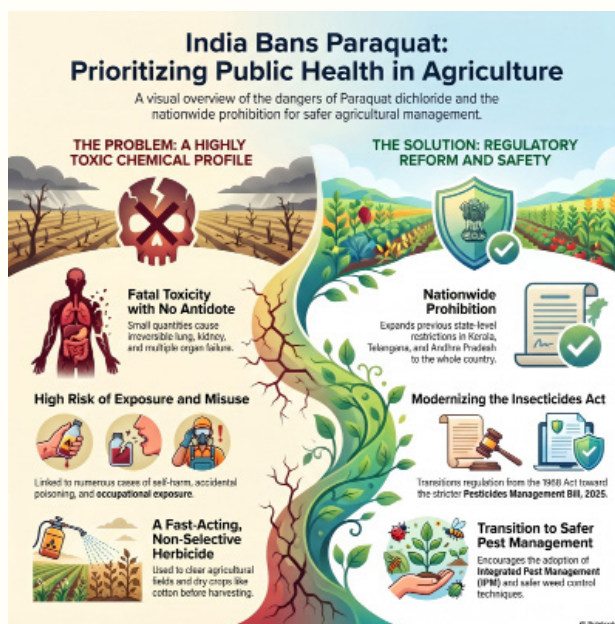
- Paraquat is one of the most toxic herbicides used in agriculture. Even a small quantity can cause irreversible lung damage, kidney failure, multiple organ failure, and death. Importantly, there is no known antidote for paraquat poisoning.
- Medical experts and public health advocates have long demanded a nationwide ban, citing its role in numerous cases of self-harm, accidental poisoning, and occupational exposure among farmers and agricultural workers.

Herbicide Regulation in India

- Herbicides in India are regulated under the Insecticides Act, 1968, which governs the import, manufacture, sale, transport, distribution, and use of pesticides. All herbicides must be registered with the

Central Insecticides Board and Registration Committee (CIB&RC) before being marketed.

- To modernize the regulatory framework, the Draft Pesticides Management Bill (PMB), 2025 has been proposed. It seeks to replace the 1968 Act by introducing stricter monitoring, digital traceability, mandatory reporting of pesticide poisoning cases, and compensation mechanisms for affected individuals.



Centre–State Regulatory Powers:

- Under the existing law, state governments can temporarily restrict or suspend the sale and use of hazardous herbicides within their territories for public health reasons, as seen in the earlier bans on paraquat by Kerala, Telangana, and Andhra Pradesh.

Significance of the Ban:

- The decision is expected to improve the safety of farmers, agricultural workers, and rural communities by reducing exposure to a highly hazardous chemical. It also reflects India's commitment to promoting safer agricultural practices and strengthening pesticide regulation.
- The ban is likely to reduce deaths due to intentional and accidental poisoning while

encouraging the adoption of safer weed management practices and Integrated Pest Management (IPM) techniques.

Conclusion:

The ban on paraquat is a significant step towards protecting farmers, public health, and the environment. Its success will depend on effective enforcement, farmer awareness, and the adoption of safer alternatives.

India Approves First Dengue Vaccine QDENG

Context:

Recently, the Drugs Controller General of India (DCGI) granted market authorization to QDENG (TAK-003), developed by Takeda Biopharmaceuticals. It is India's first approved dengue vaccine. Approved for individuals aged 4-60 years, the vaccine marks a significant step towards strengthening dengue prevention and control in the country.

About QDENG (TAK-003):

- A live-attenuated tetravalent dengue vaccine developed by Takeda Biopharmaceuticals.
- Provides protection against all four dengue virus serotypes (DENV-1, DENV-2, DENV-3, and DENV-4).
- Administered in a two-dose schedule, with the second dose given three months after the first.
- No pre-vaccination screening is required, and it can be administered regardless of prior dengue infection.

Significance of the Vaccine:

- India's first licensed dengue vaccine.
- Expected to reduce severe dengue, hospitalizations, and deaths.
- A major milestone for India, which bears nearly one-third of the global dengue burden.
- Complements existing vector-control and public health measures.

Challenges:

- Ensuring affordability and equitable access.
- Expanding manufacturing capacity and cold-chain infrastructure.
- Addressing vaccine hesitancy through public awareness.
- Vaccination alone is insufficient; continued surveillance and vector control remain essential.



Government Initiatives for dengue control:

- National Vector Borne Disease Control Programme (NVBDCP) (now the National Centre for Vector Borne Diseases Control – NCVBDC) for disease surveillance, case management, and vector control.
- Sentinel Surveillance Hospitals (SSHs) and Apex Referral Laboratories (ARLs) provide free dengue diagnosis.
- Approval of QDENG and Phase III clinical trials of the indigenous DengiAll vaccine.
- Development of Wolbachia-infected mosquitoes by the ICMR-Vector Control Research Centre (VCRC) to reduce dengue

transmission.

- Public awareness through National Dengue Day (16 May) and Anti-Dengue Month (July).

About Dengue:

- Dengue is a viral disease caused by the Dengue virus (Dengue Virus). It belongs to the Flaviviridae family and the Flavivirus genus. The virus has four serotypes: DENV-1, DENV-2, DENV-3, and DENV-4.
- The disease is primarily transmitted through the bite of an infected female *Aedes aegypti* mosquito, while *Aedes albopictus* can also contribute to its transmission.
- These mosquitoes are mainly active during the daytime, particularly in the early morning and late afternoon/evening.
- Common symptoms of dengue include high fever, severe headache, pain behind the eyes, joint and muscle pain, skin rashes, nausea, vomiting, and extreme weakness.
- In severe cases, bleeding from the nose or gums may occur, and the disease can progress to Dengue Hemorrhagic Fever (DHF) or Dengue Shock Syndrome (DSS), both of which can be life-threatening if not treated promptly.

Dengue Situation in India:

- India accounts for nearly one-third of the global dengue burden.
- Reported dengue cases have increased almost 11-fold over the past two decades.
- The actual number of infections is believed to be much higher due to under-reporting.

About the Drugs Controller General of India (DCGI):

- Heads the Central Drugs Standard Control Organization (CDSCO) under the Ministry of Health & Family Welfare.
- Functions under the Drugs and Cosmetics Act, 1940.
- Key Functions:** Approves vaccines and new drugs, regulates clinical trials, sets drug quality standards, and oversees medical devices.

- Current DCGI:** Dr. Rajeev Singh Raghuvanshi.
- Headquarters:** New Delhi.

Conclusion:

The approval of QDENGGA marks a significant milestone in India's fight against dengue. However, sustained dengue control requires an integrated approach combining vaccination, disease surveillance, vector control, environmental sanitation, and community participation.

PRAXIS Mission: NASA's New Mission to Study Planetary Rings

Context:

Recently, NASA has selected PRAXIS (Planetary Rings Autonomous EXploration with In-situ Sampling) for Phase I funding under its Innovative Advanced Concepts (NIAC) 2026 programme. The mission proposes the world's first direct in-situ sampling of planetary ring particles.

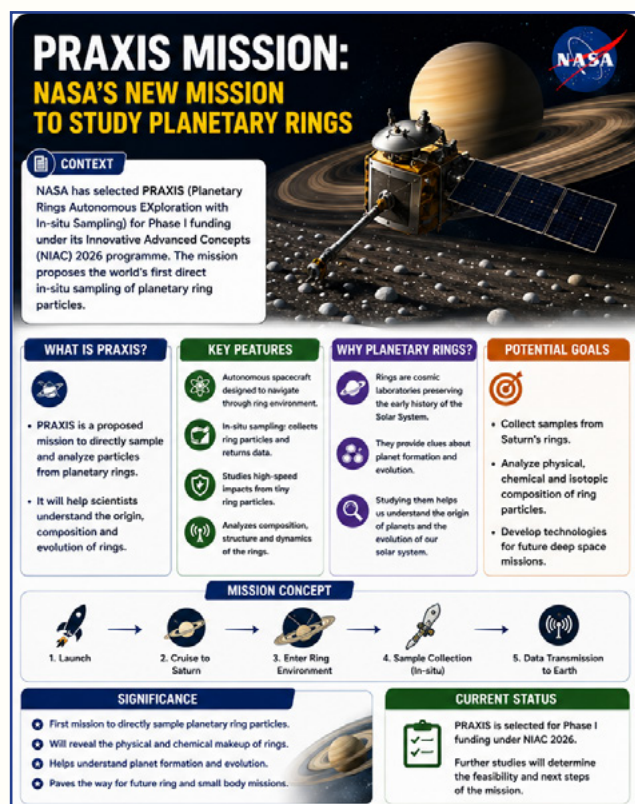
What is PRAXIS?

- PRAXIS is an innovative mission concept designed to study the ring systems of planets, particularly Saturn, by directly collecting and analyzing ring particles.
- Unlike previous missions that relied on remote sensing and photography, PRAXIS aims to physically sample particles from planetary rings using an AI-enabled, bio-inspired robotic explorer. It is currently a mission concept and has not yet been approved for launch.

Objectives of the Mission:

- The mission seeks to answer several key scientific questions identified by NASA's Planetary Science Decadal Survey, including:
 - » Understanding how planetary rings are formed and how they evolve over time.

- » Determining the composition, size, and porosity of ring particles.
- » Studying differences between dense rings (such as Saturn's) and thinner ring systems around Uranus and Neptune.
- » Enhancing knowledge about the evolution of the Solar System.



Key Technological Features:

PRAXIS incorporates several advanced technologies:

- **AI-powered Autonomous Navigation:** Artificial Intelligence enables the spacecraft to identify suitable particles, avoid collisions, and make real-time decisions without constant human intervention.
- **Bio-inspired Robotic Explorer:** The robotic system is designed to operate efficiently in the complex and dynamic environment of planetary rings.
- **Touch-and-Go Sampling:** Instead of flying through dense rings, the spacecraft will remain at a safe distance and deploy a long

flexible boom to briefly touch and collect particles, minimizing collision risks.

- **In-situ Analysis:** Onboard miniaturized instruments will immediately analyze particle size, porosity, and chemical composition.

PRAXIS vs. Cassini Mission:

- Unlike the Cassini Mission (1997–2017), which primarily used remote sensing and imaging to study Saturn's rings, PRAXIS proposes direct physical sampling.
- Cassini avoided dense ring regions due to collision hazards, whereas PRAXIS employs an AI-assisted touch-and-go technique to safely collect samples.

Significance:

- The selection of PRAXIS under NIAC Phase I allows researchers to conduct simulations and refine the mission's engineering design.
- If successful, it may progress to prototype development and eventually become a full-fledged mission. The technologies developed could also support future missions to other ringed planets.

Microporellus kolhapurensis: New Polypore Fungus Discovered

Context:

Recently, scientists discovered a new species of polypore (bracket) fungus, *Microporellus kolhapurensis*, in Bhudargad Taluka of Kolhapur district, Maharashtra.

About *Microporellus kolhapurensis*:

- It is a new species of polypore (bracket) fungus.
- It was discovered in Bhudargad Taluka, Kolhapur district, Maharashtra.
- The fungus grows on rotting wood.
- It primarily fruits between July and September.
- It generally grows singly.



Key Characteristics:

- This species differs from its closely related fungi due to the following distinctive features:
 - » Yellowish-orange to grayish-brown coloration.
 - » Umbrella-shaped structure.
 - » Lateral stalk.
 - » Ground-growing habit.
 - » Large pores.
 - » Teardrop-shaped spores.
- Distinctive thick-walled cystidia, which are large cells found on the spore-bearing surface of certain fungi that do not produce spores themselves.

What are Polypores?

- Polypores, also known as bracket fungi or shelf fungi, are a group of fungi.
- They are characterized by the presence of numerous tiny pores on the underside of their fruiting body, which is why they are called polypores.
- These pores contain and protect spores, which enable fungal reproduction.
- The pores increase the surface area, allowing the production and release of a larger number of spores.
- In most polypores, the pores are circular and regularly arranged.
- Their shelf-like or bracket-like appearance gives them the common name bracket fungi.
- They commonly grow on living trees, fallen logs, and decaying wood.
- Some species possess a short stalk that helps them attach to their substrate.
- While they can damage healthy trees, they

also play a vital role in the decomposition of dead trees.

- Their mycelium remains embedded inside the trunk of the host tree, while only the fruiting body is visible externally.

Ecological Significance:

- They facilitate the decomposition of dead wood, thereby promoting nutrient recycling.
- They play an important role in maintaining the balance of forest ecosystems.
- They are considered important indicators of biodiversity conservation and forest health.

India's New HPV Drug Candidate SHetA2

Context:

Recently, India has taken a major step towards combating cervical cancer with the transfer of SHetA2, a first-in-class anti-HPV therapeutic drug candidate, from the Indian Council of Medical Research (ICMR) to Emcure Pharmaceuticals under the Medical Innovations Patent Mitra initiative.

What is SHetA2?

- SHetA2 is an investigational therapeutic drug being developed for the treatment of Cervical Intraepithelial Neoplasia (CIN), a precancerous condition caused by persistent infection with the Human Papillomavirus (HPV).
- Unlike HPV vaccines, which prevent infection, SHetA2 is designed to treat women who already have persistent HPV infections or precancerous cervical lesions. It therefore addresses a major gap in cervical cancer management.

How Does It Work?

- SHetA2 selectively targets HPV-infected abnormal cells while sparing healthy cervical tissue. It works by disrupting key molecular pathways involved in HPV-induced cancer development, including proteins such

as mortalin, Hsc70, and Grp78, and by interfering with HPV oncoproteins E6 and E7.

- This promotes apoptosis (programmed cell death) in infected cells and reduces the risk of progression to cervical cancer. Researchers are also exploring both oral and vaginal formulations, making it a potentially non-invasive treatment.

Significance:

- Cervical cancer is the second most common cancer among Indian women, with nearly 80,000 new cases reported annually. Current treatments for CIN, such as LEEP, conization, and ablative therapies, involve surgical removal or destruction of abnormal tissue, which may affect fertility and future pregnancies.
- SHetA2 offers the possibility of a targeted drug therapy that preserves healthy tissue, improves patient outcomes, and complements HPV vaccination and cervical cancer screening programmes. It also supports the objectives of Atmanirbhar Bharat by promoting indigenous drug development and reducing dependence on imported technologies.



Challenges:

- SHetA2 is not yet an approved medicine. Although it has shown encouraging results in laboratory, preclinical, and early-stage clinical studies, it must undergo large-scale

clinical trials to establish its long-term safety, efficacy, and optimal dosage before receiving regulatory approval.

- Ensuring affordability, accessibility, and integration into India's public health system will also be crucial for its widespread adoption.

About Medical Innovations Patent Mitra Initiative:

- The Medical Innovations Patent Mitra initiative is a centralized, government-funded digital platform launched by ICMR to provide end-to-end support for patenting and technology transfer of indigenous biomedical innovations. It aims to bridge the gap between laboratory discoveries and commercial healthcare manufacturing.

Conclusion:

If successfully commercialized, SHetA2 could transform cervical cancer management by offering a targeted, non-invasive treatment for HPV-related precancerous lesions. It also highlights India's growing capabilities in biotechnology, healthcare innovation, and self-reliance in pharmaceuticals.

Chandipura Virus (CHPV) Outbreak

Context:

The recent deaths of two children in Rajasthan and multiple laboratory-confirmed Chandipura Virus (CHPV) cases in Gujarat have prompted state health authorities to strengthen disease surveillance. The outbreak has renewed attention on this rare but highly fatal virus, which primarily affects children and can rapidly lead to Acute Encephalitis Syndrome (AES).

What is Chandipura Virus?

- Chandipura Virus (CHPV) is a neurotropic, single-stranded RNA virus belonging to the Rhabdoviridae family, the same family as the rabies virus. It was first isolated in 1965

from Chandipura village in Maharashtra, after which it was named.

- The virus mainly infects children below 15 years and attacks the central nervous system, causing inflammation of the brain (encephalitis).

Transmission and Symptoms:

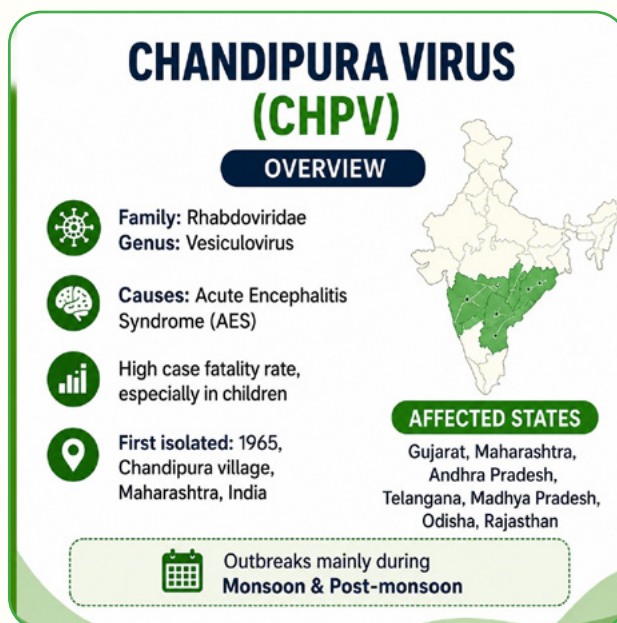
- CHPV is a vector-borne disease transmitted primarily by Phlebotomine sandflies, although some mosquito species, including *Aedes aegypti*, may also act as vectors. The virus enters the bloodstream through insect bites and may spread to the brain.
- Initial symptoms include high fever, headache, body ache, and vomiting. Severe cases progress rapidly to seizures, altered consciousness, respiratory distress, and encephalitis. Mortality may occur within 24–48 hours of hospitalization due to the rapid progression of the disease.

Why are Certain Regions More Vulnerable?

- The disease is largely endemic to central India, particularly Maharashtra, Gujarat, and Andhra Pradesh, where sandfly populations are abundant.
- Rural and tribal areas with kutcha houses, poor sanitation, and increased sandfly breeding are more vulnerable. Monsoon conditions further accelerate vector multiplication, increasing the risk of outbreaks.

Treatment and Prevention:

- There is currently no specific antiviral treatment or vaccine for Chandipura Virus. Management is supportive and includes controlling seizures, reducing brain swelling, maintaining hydration, and providing intensive care.
- Prevention relies on vector control through insecticide spraying, mosquito nets, repellents, sanitation, and eliminating breeding sites. Early detection and surveillance remain crucial.



One Health approach:

- The outbreak highlights the importance of the One Health approach, which recognizes the interdependence of human, animal, and environmental health.
- India's National One Health Mission, implemented by ICMR, aims to strengthen integrated disease surveillance, improve pandemic preparedness, and enhance coordination among health, veterinary, and environmental sectors.

Conclusion:

The re-emergence of the Chandipura virus highlights the need for robust disease surveillance, effective vector control, public awareness, and a One Health approach. Strengthening public health preparedness and advancing research will be essential to prevent and effectively respond to such outbreaks in the future.

Index of Services Production (ISP): A New Statistical Framework for a Services-Led Economy

Context:

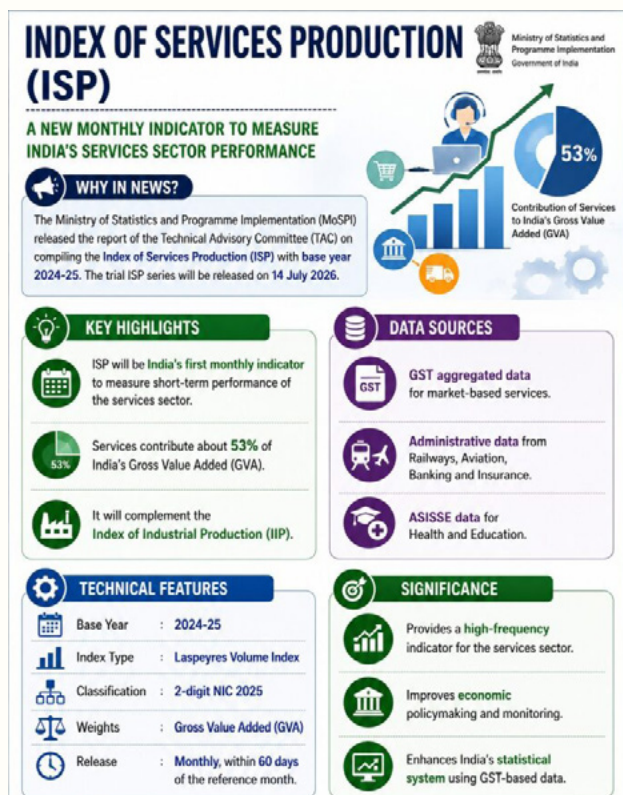
Over the past three decades, the structure of the Indian economy has undergone a remarkable transformation. The traditional development model, driven primarily by agriculture and industry, has gradually evolved into a services-led economy, where information technology, financial services, trade, transportation, tourism, healthcare, education, and digital services have emerged as the principal engines of economic growth. Today, the services sector accounts for the largest share of India's Gross Value Added (GVA), Foreign Direct Investment (FDI), exports, and employment generation.

- Surprisingly, despite the sector's overwhelming contribution to the economy, India lacked a comprehensive official indicator capable of measuring its real economic activity on a regular basis.
- For the industrial sector, India publishes the Index of Industrial Production (IIP), while inflation is tracked through the Consumer Price Index (CPI) and the Wholesale Price Index (WPI). Similarly, external sector performance is assessed through indicators such as trade statistics and foreign exchange reserves. However, no comprehensive monthly production index existed for the services sector—the largest component of India's economy—creating a significant statistical gap in measuring overall economic activity.
- Against this backdrop, the Index of Services Production (ISP), developed by

the Ministry of Statistics and Programme Implementation (MoSPI), represents a landmark institutional reform in India's statistical system. More than just a new economic indicator, the ISP symbolizes India's growing capacity for data-driven governance, evidence-based policymaking, and real-time economic monitoring. As the economy becomes increasingly services-oriented, the initiative has the potential to make policymaking more scientific, timely, and responsive.

Index of Services Production (ISP):

- The Index of Services Production (ISP) is a monthly economic indicator designed to measure changes over time in the real output of the services sector. It uses 2024–25 as its base year.
- Unlike indicators based merely on revenue or turnover, the ISP seeks to measure the actual volume of services produced after adjusting for changes in prices. In other words, it eliminates the impact of inflation to capture the real volume of service activities.
- The index is constructed using data from the Goods and Services Tax (GST), administrative databases, the Annual Corporate Services Sector Survey (ASISSE) and other official sources. Built on a modern digital data infrastructure, the ISP is expected to provide more timely, comprehensive, and reliable information compared to traditional survey-based approaches.



- According to the trial series, 14 of the 19 service sub-sectors covered by the index recorded double-digit year-on-year growth in April 2026. Trade, accommodation and food services, and other business services witnessed particularly strong expansion. Although these figures are still experimental, they indicate robust momentum in India's services sector.

Aligning India with Global Statistical Standards:

- Many advanced economies already publish high-frequency production indices for the services sector. International organizations also recognize the measurement of service sector output as an essential component of modern economic statistics.
- Most OECD economies compile high-frequency Services Production Indices, while the European Union publishes a Services Production Index under its Short-term Business Statistics framework. India's development of the ISP is therefore consistent with global best practices.
- Beyond statistical reform, the initiative also reflects India's aspiration to strengthen its image as a transparent, credible, and data-rich economy capable of attracting greater global investment.

Challenges:

While the ISP is a significant institutional innovation, its long-term success will depend on addressing several important challenges.

- Diversity of the Services Sector:** Unlike manufacturing, service sector output is inherently difficult to measure. Quantifying production in areas such as education, healthcare, judicial services, defence, and many public services remains methodologically complex. Owing to data limitations, several important sectors have not yet been included in the trial series.
- Measuring the Informal Services Economy:** A substantial share of India's services sector consists of small traders, transport

A New Dimension in Policymaking:

- Timely availability of reliable data is indispensable for effective policymaking. The ISP addresses a long-standing information gap by enabling policymakers to assess the performance of the services sector on a monthly basis.
- The Government of India, the Reserve Bank of India (RBI) and other policymakers will be able to identify which service industries are expanding, where economic slowdowns are emerging, and which sectors require policy intervention. Consequently, decisions relating to monetary policy, fiscal policy, investment promotion, and employment generation can become more precise and evidence-based.
- The index will also serve as an important resource for investors, businesses, and researchers. Timely economic data can facilitate more informed investment decisions while improving the assessment of short-term trends in the Indian economy.

operators, local service providers, and self-employed individuals operating outside the formal statistical framework. If the index primarily captures formal-sector activities, it may not fully reflect the actual performance of the services economy.

- **Measuring Digital Services:** The rapid emergence of platform-based services, artificial intelligence (AI)-driven activities, and other digital business models presents a new statistical challenge. Developing reliable methodologies to measure these evolving sectors will become increasingly important in the coming years.
- **Data Quality and Timeliness:** The reliability of the ISP may be affected by revisions in GST data, differences in compliance levels, and variations in the quality of administrative datasets. Therefore, a robust data validation mechanism and periodic methodological reviews will be essential to maintain the credibility of the index.

Way Forward:

- To ensure the long-term effectiveness of the Index of Services Production, several policy measures deserve consideration.
 - » First, as data availability improves, sectors such as education, healthcare, and other public services should be incorporated into the index in a phased manner.
 - » Second, alternative data sources—including digital payment records, e-invoicing systems, labour force surveys, and other administrative databases—should be leveraged to better capture the informal services economy.
 - » Third, the methodology should remain transparent and be subject to regular consultations with experts, academics, statisticians, and industry stakeholders to enhance its reliability and relevance over time.
- Finally, the ISP should be integrated with National Accounts, employment statistics,

and other high-frequency macroeconomic indicators to provide policymakers with a more comprehensive and real-time understanding of the economy.

Conclusion:

- India is among the world's fastest-growing major economies, and the services sector forms the backbone of this growth story. In such a scenario, relying solely on quarterly or annual statistics to assess service sector performance is no longer sufficient. The Index of Services Production (ISP) addresses this long-standing gap and marks the beginning of a new era in India's economic statistics.
- While its methodology will require further refinement, broader sectoral coverage, and continuous improvements in data quality, the ISP represents far more than just another statistical indicator. It signifies a major expansion of India's institutional capacity for evidence-based governance, timely economic analysis, and responsive policymaking. Its long-term success will ultimately depend on how effectively India strengthens its coverage, transparency, methodological robustness and technological reliability in the years ahead.

Short Issues

RBI Financial Stability Report (FSR) 2026

Why in News?

Recently, The Reserve Bank of India (RBI) released Financial Stability Report (FSR) 2026, highlighting two major global forces reshaping the economy—geopolitical fragmentation and rapid advancements in Artificial Intelligence (AI). Despite global uncertainties, the report emphasizes the continued resilience and strength of India's financial system, particularly its banking sector.

About Financial Stability Report (FSR):

- The Financial Stability Report is a biannual publication of the RBI, in circulation since 2010. It assesses the overall health and resilience of India's financial system, including banking, insurance, and NBFC sectors.
- It is prepared based on inputs from the Financial Stability and Development Council (FSDC) Subcommittee, chaired by the RBI Governor. The FSDC, established in 2010 under the Ministry of Finance, is a non-statutory apex body chaired by the Union Finance Minister.
- The FSR acts as an early-warning system to detect systemic risks and ensure financial stability.

Key Findings of RBI Financial Stability Report (FSR) 2026:

- The RBI's Financial Stability Report highlights geopolitical fragmentation as a major global risk. Rising conflicts across regions are disrupting trade, investment flows, supply chains, and overall financial stability, thereby increasing the vulnerability of economies to external shocks. Alongside this, global financial markets are also facing risks from structural changes and uncertainty.
- A second major concern identified is technological disruption through Artificial

Intelligence (AI). While AI is improving productivity and transforming financial systems, it is also creating challenges related to employment, regulatory oversight, and market stability.

- In addition, several global vulnerabilities persist, including high public debt in advanced economies, fragile bond markets, elevated asset valuations, growing influence of leveraged Non-Banking Financial Intermediaries (NBFIs), and the possibility of tighter monetary policy due to persistent inflation.



- Despite these global headwinds, India's macro-financial resilience remains strong. The economy has been supported by robust growth, moderating inflation, healthy balance sheets of banks and corporates, and adequate capital and liquidity buffers.

The RBI has reiterated its commitment to strengthening institutional safeguards to protect the economy from external shocks.

- The report also underlines the strong health of India's banking and financial sector. The Gross Non-Performing Asset (GNPA) ratio has declined to a multi-decadal low of 1.8% as of March 2026. Stress tests indicate that GNPA may rise slightly to 1.9% under baseline conditions and between 3.8%–4.1% under adverse scenarios, still reflecting strong resilience. Banks and NBFCs continue to maintain adequate capital, liquidity, and profitability.
- In terms of asset quality trends and outlook, slippage ratios have declined to 1.2% in FY 2025–26, showing improved credit discipline. While agriculture remains the weakest sector with the highest GNPA at 5.1%, large borrowers have shown significant improvement, with GNPA falling from 2.4% to 1.2%.
- Overall, India's financial markets remain stable, and the RBI emphasizes that financial stability also depends on fair practices, customer protection, financial inclusion, and efficient financial services delivery.

Conclusion:

The FSR 2026 highlights India's strong financial foundations amid global uncertainties. However, it warns that external risks from geopolitical tensions and technological disruptions remain significant. Strengthening resilience while ensuring inclusive and efficient financial systems will be key for future stability.

Credit Growth Outpaces Deposit Growth

Why in news:

In recent times India's banking sector is witnessing a widening gap between credit growth and deposit mobilisation. According to RBI report, the credit-deposit gap widened to a

record 564 basis points (bps) in the fortnight ended 15 June 2026, pushing the Loan-to-Deposit Ratio (LDR) to an all-time high of 83.4% and raising concerns over banking sector liquidity and stability.

Key highlights of the RBI report:

- Outstanding bank credit increased by 17.7% year-on-year to Rs.215.5 lakh crore, driven by strong demand from retail borrowers, MSMEs, NBFCs, and corporates.
- Bank deposits grew by only 12.0% year-on-year to Rs.258.4 lakh crore and declined by Rs.1.8 lakh crore (0.6%) sequentially due to advance tax outflows and increased investments in market-linked financial products.
- The credit-deposit gap widened from 544 bps to 564 bps, indicating that lending is growing much faster than deposits.
- As a result, the Loan-to-Deposit Ratio (LDR) increased from 79.4% a year ago to a record 83.4%, reflecting tighter liquidity conditions.



What are CASA Deposits?

- CASA (Current Account and Savings Account) deposits are low-cost deposits that form the primary funding source for banks.
 - » **Current Accounts:** Mainly maintained by businesses, generally do not earn interest but offer unlimited transactions.
 - » **Savings Accounts:** Held by individuals and earn modest interest while providing high liquidity.
- CASA deposits are considered low-cost and "sticky", making them a stable source of funds for banks to extend loans.

Why are CASA Deposits Slowing?

- The slowdown in CASA deposits is due to:
 - » Rising investments in equity markets, mutual funds, ETFs, and small savings schemes, which offer higher returns.
 - » Rapid digitisation through UPI, online investment platforms and simplified KYC, making investing easier.
 - » Increased financial awareness among households.
 - » Attractive interest rates offered on Fixed Deposits (FDs) compared to savings accounts.

About Credit-to-Deposit Ratio and Asset-Liability Mismatch:

- The Credit-to-Deposit (CD) Ratio or Loan-to-Deposit Ratio (LDR) measures the proportion of deposits used for lending. A higher ratio indicates efficient utilisation of deposits but leaves banks with a smaller liquidity cushion.
- An Asset-Liability Mismatch (ALM) arises when banks finance long-term loans using short-term deposits. If deposits are withdrawn before loans mature, banks may face liquidity stress.

Why is Slow Deposit Mobilisation a Concern?

- Weak deposit growth has forced banks to increasingly rely on wholesale funding such as Term Deposits and Certificates of Deposit

(CDs).

- Outstanding Certificates of Deposit reached Rs.6.67 lakh crore, while fresh issuances rose sharply to Rs.1.02 lakh crore, registering 38.1% annual growth.
- Since CASA deposits typically cost 3–4%, whereas term deposits and CDs cost 7–8%, banks' Net Interest Margins (NIMs) are compressed.
- Greater dependence on wholesale funding also increases vulnerability to RBI interest rate changes, liquidity tightening, and external financial shocks.

Term Deposits, Certificates of Deposit and Mutual Funds:

- Term Deposits include Fixed Deposits (FDs) and Recurring Deposits (RDs), where money is invested for a fixed period in exchange for higher returns.
- Certificates of Deposit (CDs) are negotiable money market instruments issued by banks to mobilise short-term funds from institutional investors.
- Mutual Funds pool investors' money into diversified portfolios managed by professionals. They offer higher return potential but are exposed to market, credit, liquidity, and interest-rate risks.

Conclusion:

improving deposit mobilisation, strengthening asset-liability management, and maintaining a balanced Credit-to-Deposit Ratio will be crucial for ensuring sustainable growth and resilience of India's banking sector.

RBI Launches Three Key Surveys to Support Monetary Policy Formulation

Why in News?

Recently, The Reserve Bank of India (RBI) launched three major surveys in July 2026 to collect information on inflation expectations, consumer confidence, and economic conditions.

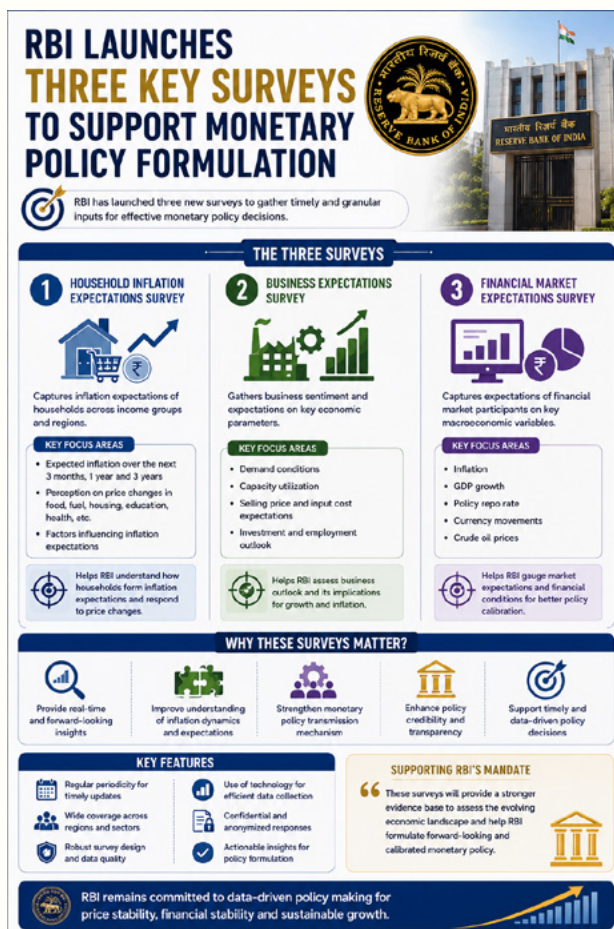
These surveys will provide crucial inputs for the Monetary Policy Committee (MPC) while making decisions on interest rates and monetary policy.

Key Surveys Launched by RBI:

- **Inflation Expectations Survey of Households (IESH):** The Inflation Expectations Survey of Households (IESH) measures households' views on future price movements and inflation trends. Conducted across 19 cities, it collects qualitative and quantitative responses on current, three-month, and one-year inflation expectations, helping RBI in interest rate decisions and inflation targeting.
- **Rural Consumer Confidence Survey (RCCS):** The Rural Consumer Confidence Survey (RCCS) assesses economic confidence among rural and semi-urban households across 31 States/UTs. It captures views on economic conditions, employment, prices, income, and spending patterns, providing insights into rural demand and consumption trends.
- **Urban Consumer Confidence Survey (UCCS):** The Urban Consumer Confidence Survey (UCCS) evaluates urban households' sentiment regarding economic conditions, employment, prices, income, and spending. Conducted across 19 cities, it helps RBI understand urban consumption patterns and overall economic confidence for effective monetary policy formulation.

Role of RBI Surveys in Monetary Policy:

- The RBI uses these surveys as important indicators for:
 - » Inflation forecasting: Understanding future price expectations.
 - » Interest rate decisions: Supporting MPC decisions on policy rates.
 - » Demand assessment: Measuring consumption patterns and economic confidence.
 - » Policy effectiveness: Evaluating the impact of monetary measures on households.



RBI LAUNCHES THREE KEY SURVEYS TO SUPPORT MONETARY POLICY FORMULATION

RBI has launched three new surveys to gather timely and granular inputs for effective monetary policy decisions.

THE THREE SURVEYS

- 1 HOUSEHOLD INFLATION EXPECTATIONS SURVEY**
Captures inflation expectations of households across income groups and regions.
KEY FOCUS AREAS
 - Expected inflation over the next 3 months, 1 year and 3 years
 - Perception on price changes in food, fuel, housing, education, health, etc.
 - Factors influencing inflation expectations
- 2 BUSINESS EXPECTATIONS SURVEY**
Gathers business sentiment and expectations on key economic parameters.
KEY FOCUS AREAS
 - Demand conditions
 - Capacity utilization
 - Selling price and input cost expectations
 - Investment and employment outlook
- 3 FINANCIAL MARKET EXPECTATIONS SURVEY**
Captures expectations of financial market participants on key macroeconomic variables.
KEY FOCUS AREAS
 - Inflation
 - GDP growth
 - Policy repo rate
 - Currency movements
 - Crude oil prices

WHY THESE SURVEYS MATTER?

- Provide real-time and forward-looking insights
- Improve understanding of inflation dynamics and expectations
- Strengthen monetary policy transmission mechanism
- Enhance policy credibility and transparency
- Support timely and data-driven policy decisions

KEY FEATURES

- Regular periodicity for timely updates
- Wide coverage across regions and sectors
- Robust survey design and data quality
- Use of technology for efficient data collection
- Confidential and anonymized responses
- Actionable insights for policy formulation

SUPPORTING RBI'S MANDATE

These surveys will provide a stronger evidence base to assess the evolving economic landscape and help RBI formulate forward-looking and calibrated monetary policy.

RBI remains committed to data-driven policy making for price stability, financial stability and sustainable growth.

About Monetary Policy Committee (MPC):

- The Monetary Policy Committee (MPC) was established under the amended Reserve Bank of India Act, 1934. It is a statutory six-member body responsible for fixing the benchmark repo rate to maintain price stability while supporting economic growth. Its decisions are binding on the RBI.
- The MPC consists of three RBI members and three external members appointed by the Central Government. RBI members include the Governor (Chairperson), Deputy Governor in charge of Monetary Policy, and one RBI-nominated official. External members are independent experts in economics, banking, or finance. Members serve a four-year term and cannot be reappointed.
- The committee requires a quorum of four

members for meetings, and decisions are taken through a majority vote. In case of a tie, the RBI Governor has a casting vote. MPC meeting minutes are published to ensure transparency, with members explaining their voting decisions.

- The MPC follows an inflation-targeting framework, focusing on Consumer Price Index (CPI) inflation. The government, in consultation with RBI, sets the inflation target at 4% with a tolerance band of 2–6%. If inflation remains outside this range for three consecutive quarters, RBI must submit a report explaining the causes and corrective measures.

Conclusion:

The RBI's consumer surveys reflect a data-driven approach to monetary policy by providing insights into inflation expectations and economic sentiment. They help ensure price stability and support sustainable economic growth.

Jodhpur Mojari Gets GI Tag

Context:

Recently, Mojari craft of Jodhpur, a nearly 200-year-old traditional footwear, has received a GI tag from the Centre. The recognition will help protect artisans, improve branding, and increase export opportunities.

About Jodhpuri Mojari:

- Jodhpuri Mojari is a handcrafted leather footwear famous for its embroidery, durability, flexibility, and traditional design.
- It is suitable for Rajasthan's hot climate due to its lightweight and airy structure. Worn by both men and women, Mojari is designed as a slip-on shoe that can be easily removed at homes and temples.

JODHPURI MOJARI: HERITAGE IN EVERY STEP

GI TAG: FROM 200-YEAR TRADITION TO GLOBAL BRAND



Historical Background:

- The craft is mainly practised by the Jinagar community, who were traditionally associated with saddle making. The term Jinagar is linked with jeen (saddle), meaning makers of saddles. Historically, the community produced horse saddles and leather covers for swords and daggers for royal armies.
- According to local traditions, the community shifted towards shoemaking after impressing a Jodhpur ruler with a creatively designed pair of leather shoes during a royal wedding. Over time, Mojari developed into a unique symbol of Jodhpur's cultural identity.

About GI Tags:

- A Geographical Indication (GI) tag is a sign used on products that have a specific geographical origin and possess qualities, reputation, or characteristics due to that origin. It connects a product's identity with its region of production.
- **Legal Framework:**

Aspect	Details
Governing Law	Geographical Indications of Goods (Registration and Protection) Act, 1999
Effective Date	September 2003
Purpose	Protection of geographical products and prevention of misuse

International Link	Compliant with WTO's TRIPS Agreement
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India introduced the GI law to protect traditional products as intellectual property and promote their economic value.

- **Administrative Body:**
 - » GI registration is administered by the Geographical Indications Registry, Chennai under the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry.
 - » The overall administration of intellectual property rights is carried out under the Controller General of Patents, Designs and Trade Marks.
- **Validity Period:**
 - » A GI registration remains valid for 10 years.
 - » It can be renewed periodically.
- **First GI Tag in India:** The first Indian product to receive a GI tag was Darjeeling Tea (2004–05). It became the first product protected under India's GI framework.

Benefits of GI Tag:

- Provides legal protection against unauthorised use.
- Preserves traditional knowledge and cultural heritage.
- Improves market recognition.
- Promotes exports.
- Supports local artisans and rural employment.

Conclusion:

The GI tag for Jodhpuri Mojari represents more than recognition of a footwear tradition—it is a step towards preserving Rajasthan's centuries-old craftsmanship and empowering artisan communities. By linking cultural heritage with economic opportunities, GI protection can help India safeguard traditional products while expanding their presence in global markets.

Global Liveability Index 2026

Context:

Recently, The Economist Intelligence Unit (EIU) officially released its Global Liveability Index 2026, which evaluates living conditions across 173 cities worldwide. Among Indian cities, New Delhi ranked 120th rank in the index.

What is the Global Liveability Index?

- The Global Liveability Index is an annual report published by the Economist Intelligence Unit (EIU) that assesses the quality of life in major cities across the world.
- **Objective:**
 - » Compare living conditions across cities.
 - » Help businesses assess hardship allowances for employees.
 - » Evaluate the overall quality of urban life.

Assessment Criteria:

- The Index evaluates 173 cities based on 30 qualitative and quantitative indicators grouped under five categories:

Category	Weightage
Stability	25%
Healthcare	20%
Culture & Environment	25%
Education	10%
Infrastructure	20%

- Each city receives a score out of 100, with higher scores indicating better liveability.

Top Rankings cities:

Rank	City	Country
1	Copenhagen	Denmark
2	Vienna	Austria
3	Melbourne	Australia

Performance of Indian Cities:

City	Rank
New Delhi	120
Mumbai	121
Chennai	123

Bengaluru	127
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- New Delhi and Mumbai maintained their rankings from 2025.
- Indian cities continue to face challenges related to infrastructure, pollution, traffic congestion, and urban governance.

Global Trends:

- Western Europe continues to be the most liveable region, although its average score has remained largely unchanged.
- Asian cities have shown improvement in overall liveability.
- The report noted that geopolitical conflicts, including tensions in the Gulf region, negatively affected stability scores in some cities.

Urbanisation in India:

- Currently, around 35–36% of India's population lives in urban areas, which is projected to increase to 50% by 2047.
- Indian cities contribute nearly 66% of the country's GDP, with Delhi, Mumbai, and Bengaluru accounting for over 30% of the GDP.
- Delhi is India's largest Urban Agglomeration.
- The 74th Constitutional Amendment Act, 1992 strengthened urban governance by providing for Nagar Panchayats, Municipal Councils, and Municipal Corporations.
- Under the Smart Cities Mission (2015), 100 cities were selected, and over 94% of the projects have been completed.
- Despite these initiatives, challenges such as traffic congestion, urban poverty, slums, and inadequate infrastructure persist. More than 17% of India's urban population lives in slums, while cities like Indore, Visakhapatnam, and Lucknow are emerging as important Tier-II and Tier-III growth centres.

Challenges for Indian Cities:

- Rapid urbanisation and population growth.
- Traffic congestion and inadequate public transport.

- Air pollution and environmental degradation.
- Pressure on healthcare and civic infrastructure.
- Urban governance and service delivery gaps.

Importance of Liveability:

- A higher liveability ranking helps:
 - » Attract global investment.
 - » Improve ease of living.
 - » Enhance quality of life.
 - » Attract skilled professionals and talent.
 - » Promote sustainable urban development.

Conclusion:

The Global Liveability Index 2026 highlights the need for Indian cities to improve urban infrastructure, governance, and public services. Enhancing liveability is essential not only for improving citizens' quality of life but also for attracting investment, talent, and achieving sustainable urban development.

Ethanol Blended Petrol (EBP) Programme

Context:

Recently, India's Ethanol Blended Petrol (EBP) programme has gained attention after the nationwide adoption of E20 fuel, which contains 20% ethanol and 80% petrol. Following opposition, the government stated that while E20 fuel might reduce the fuel efficiency of some vehicles by approximately 3–5%, it also offers significant benefits such as cleaner combustion, a higher octane rating, and reduced pollution.

What is Ethanol?

- Ethanol (ethyl alcohol) is a renewable biofuel produced through the fermentation of plant-based sugars and starches. It is mainly used as a fuel additive to increase petrol efficiency and reduce harmful emissions.
- Ethanol used for petrol blending requires 99%+ purity. It can be produced from sugarcane, corn, rice, grains, and agricultural waste.

About Ethanol Blended Petrol (EBP) Programme:

- The Ethanol Blended Petrol (EBP) Programme is a flagship initiative of the Government of India aimed at reducing dependence on fossil fuels by blending ethanol with petrol and promoting cleaner energy.
- The programme is implemented by the Ministry of Petroleum and Natural Gas under the National Policy on Biofuels, 2018. India achieved its 20% ethanol blending (E20) target in 2025–26, five years ahead of the original deadline.

Key features:

- **Launch:** Introduced as a pilot project in January 2003 and expanded nationwide in 2006.
- **Sources of Ethanol:** Sugarcane molasses, sugarcane juice, maize, sugar beet, damaged food grains, and agricultural residues (2G ethanol).
- **Major Benefits:** Reduces crude oil imports, saves foreign exchange (over Rs.1.4 lakh crore), increases farmers' income, lowers carbon emissions by up to 30%, and enhances India's energy security.
- **Impact on Vehicles:** E20 fuel is considered safe for compatible vehicles. However, some older vehicles may experience a marginal reduction of 3–5% in fuel efficiency (mileage).

Generations of Biofuels:

- **First Generation (1G)**
 - » Produced from food crops such as sugarcane, corn, and sugar beet.
 - » Example: Ethanol from molasses.
 - » Concern: Food versus fuel debate.
- **Second Generation (2G)**
 - » Produced from non-food sources like agricultural residue, bagasse, and municipal waste.
 - » Helps reduce stubble burning and promotes waste-to-energy solutions.
- **Third Generation (3G)**
 - » Produced from algae and aquatic

biomass.

- » Requires less agricultural land and has high carbon absorption potential.

- **Fourth Generation (4G)**

- » Uses genetically modified microorganisms to develop carbon-neutral fuels.



Benefits of Ethanol Blending:

- **Energy Security:** India imports more than 88% of its crude oil requirements. Ethanol blending reduces dependence on imported fossil fuels and saves foreign exchange.
- **Support to Farmers:** The programme creates additional markets for sugarcane, grains, and agricultural products, improving rural incomes.
- **Environmental Benefits:** Ethanol burns cleaner than petrol and helps reduce carbon monoxide, hydrocarbon emissions, and greenhouse gases.

- **Waste Management:** 2G ethanol converts agricultural waste into fuel and helps tackle crop residue burning.

Challenges:

- Lower mileage in some vehicles.
- Compatibility issues with older engines.
- Dependence on water-intensive crops like sugarcane.
- Food security concerns.
- Need for expansion of advanced biofuel technology.

Way Forward:

India should focus on promoting 2G and 3G biofuels, developing fuel-efficient vehicles, improving ethanol infrastructure, and ensuring a balance between energy security, environmental protection and agricultural sustainability.

Investment Friendliness Index 2026

Context:

Recently, NITI Aayog has released the first-ever Investment Friendliness Index (IFI) 2026, which evaluates the ability of Indian states and Union Territories (UTs) to attract and sustain investments. Gujarat emerged as the most investment-friendly state among large states, followed by Maharashtra and Tamil Nadu.

Key Findings of the Index:

- According to the Investment Friendliness Index 2026, Gujarat secured the top position among large states with a score of 56.6 out of 100. Maharashtra ranked second with 53.7 points, while Tamil Nadu stood third with 53.3 points.
- In the category of hilly and North-Eastern states, Uttarakhand topped the rankings, followed by Assam and Himachal Pradesh. Among Union Territories and city states, Goa secured the first position, followed by Delhi and Chandigarh.

- The index assessed all 28 states and 8 Union Territories based on their capacity to create a favourable environment for investment.

About Investment Friendliness Index:

- The Investment Friendliness Index is not intended merely as a ranking system. NITI Aayog has described it as a strategic reform tool that helps states identify policy gaps, improve governance and strengthen their investment ecosystem.
- The index aims to:
 - » Encourage states to compete for private investment.
 - » Promote sharing of best practices among states.
 - » Improve ease of doing business.
 - » Support evidence-based policymaking.
- More than 1,850 investors were surveyed, and feedback from 165 stakeholders was incorporated to develop the framework.

Parameters of Evaluation:

- The index evaluates states on eight major pillars that determine investment readiness:
 - » Infrastructure – 25%
 - » Business Climate – 20%
 - » Resources – 15%
 - » Regulatory Ease – 12%
 - » Government Policy – 10%
 - » Financial Health – 7%
 - » Institutional Environment – 6%
 - » Environmental Resilience – 5%
- The assessment combines publicly available economic data with investor perception surveys to provide a comprehensive picture of each state's investment environment.

Significance of index for Indian Economy:

- This index strengthens the concept of Competitive Federalism, in which states strive to attract investments through better governance and effective policies.
- Increased investment can lead to:
 - » Growth in employment opportunities.
 - » Promotion of the manufacturing sector.
 - » Encouragement of innovation.
 - » Acceleration of the pace of economic

growth.

- Additionally, this index can contribute to reducing regional disparities by helping states identify their weaknesses and implement necessary improvements.

Conclusion:

The Investment Friendliness Index 2026 provides a roadmap for states to enhance their investment potential. Gujarat's achievement reflects the importance of infrastructure, policy stability and investor confidence. However, the larger objective of the index is not only competition but also cooperation, enabling all states to learn from each other and contribute to India's vision of Viksit Bharat by 2047.

National Investment Policy for Urea-2026 (NIPU-2026)

Context:

Recently, The Union Cabinet has approved the National Investment Policy for Urea-2026 (NIPU-2026) to promote investment in gas-based urea manufacturing plants and enhance domestic urea production. The policy seeks to reduce import dependence, strengthen fertilizer security, and support the Atmanirbhar Bharat vision of self-reliance in fertilizer production.

Background:

- The Department of Fertilizers introduced the New Investment Policy (NIP)-2012 to encourage investment in greenfield, brownfield, expansion, revamp, and revival of urea plants. Under the policy:
 - » Six new urea plants were established.
 - » Four plants were set up through public sector joint ventures, while two were developed by private companies.
 - » After the expiry of the investment window in 2019, new investment proposals prompted the formulation of NIPU-2026.

Key Features of NIPU-2026:

- Covers new gas-based urea manufacturing units.
- Separates fixed and variable costs in the pricing framework.
- Introduces a Return on Equity (RoE) ranging from 12% to 16% to improve investment viability.
- Mitigates foreign exchange risk by converting fixed costs into rupees after four years based on the prevailing exchange rate.
- Encourages fresh investments to increase domestic urea production and reduce import dependence.

Urea Production in India:

- India has 33 operational urea manufacturing units.
- Total reassessed installed capacity is 269.42 lakh metric tonnes (LMT).
- Despite this capacity, India continues to import urea to meet domestic demand due to high agricultural consumption.

Difference between Agricultural and Industrial Urea:

Agricultural Urea	Industrial (Technical-grade) Urea
Used as a nitrogen fertilizer for crops	Used in resins, plywood, melamine, textiles, dyes, moulding compounds, and other industries
Highly subsidised by the government	Sold at market price without subsidy
Neem-coated and regulated under the Fertiliser Control Order	Not neem-coated and follows industrial quality standards
Supplied in yellow bags with mandatory fertilizer markings	Usually supplied in plain white bags with industrial specifications

Related Government Initiatives:

- **Nutrient-Based Subsidy (NBS) Scheme (2010):** Promotes balanced use of phosphatic and

potassic fertilizers by providing subsidies.

- **Soil Health Card Scheme (2015):** Provides farmers with soil nutrient information for scientific fertilizer use.
- **100% Neem-Coated Urea (2015):** Reduces nitrogen loss, improves nutrient-use efficiency, and prevents diversion of subsidized urea.
- **Nano Fertilisers:** Promote efficient nutrient delivery with lower losses. India aims to replace 10% of conventional urea and DAP with nano fertilizers in the coming years.

Significance:

- Strengthens fertilizer self-reliance under Atmanirbhar Bharat.
- Reduces dependence on costly urea imports.
- Encourages private and public sector investment in fertilizer manufacturing.
- Improves energy-efficient gas-based production.
- Ensures stable fertilizer availability for farmers while supporting long-term food security.

Challenges:

- High capital investment required for new plants.
- Dependence on natural gas availability and prices.
- Environmental concerns associated with fertilizer production.
- Need for balanced fertilizer use to prevent excessive dependence on urea.

Conclusion:

The National Investment Policy for Urea-2026 is a significant step toward strengthening India's fertilizer security and reducing import dependence. However, increasing domestic production should be complemented by balanced fertilization practices, promotion of nano fertilizers, improved soil health management, and efficient nutrient-use strategies to ensure sustainable agricultural growth and long-term food security.

Why Has India Moved to Take Down BitChat Repositories?

Context:

Recently, the Indian Cyber Crime Coordination Centre (I4C), operating under the Ministry of Home Affairs (MHA), directed GitHub to disable public access to repositories related to BitChat, a decentralized Bluetooth Mesh Messaging Application.

What is BitChat?

- BitChat is a decentralized peer-to-peer messaging application that operates through Bluetooth mesh networks. It does not require an internet connection or a centralized server to function.
- Users are not required to register using a mobile number or any other personal information. In the network, each device functions not only as a sender but also as a relay, forwarding messages to nearby devices. As a result, messages can travel from one location to another through multiple neighboring devices.
- This architecture enables communication even during internet shutdowns, natural disasters, or in remote areas with poor connectivity. It is designed to provide resistance to censorship, protection of user privacy, and independence from centralized communication infrastructure.

Why Did the Government Seek Its Removal?

- According to the Indian Cyber Crime Coordination Centre (I4C), BitChat's anonymous and decentralized architecture makes it extremely difficult for law enforcement agencies to:
 - » Conduct lawful interception,
 - » Identify users, and
 - » Investigate criminal activities.
- The government argues that such platforms could be misused for:
 - » Organizing unlawful assemblies,
 - » Coordinating violent protests,

- » Facilitating terrorist activities,
- » Supporting organized crime,
- » Spreading misinformation, and
- » Carrying out other activities prejudicial to India's sovereignty, national security, and public order.
- Since messages are exchanged directly between nearby devices without passing through a centralized server, the government fears that users may evade lawful surveillance, particularly during internet shutdowns.



Why Has India Moved to Take Down BitChat Repositories?
Balancing Innovation, Security and National Interests

CONTEXT Recently, the Indian Cyber Crime Coordination Centre (I4C), operating under the Ministry of Home Affairs (MHA), directed GitHub to disable public access to repositories related to BitChat, a decentralized Bluetooth Mesh Messaging Application.

WHAT IS BITCHAT?
BitChat is a decentralized peer-to-peer messaging application that operates through Bluetooth mesh networks.

- ✓ No internet connection required
- ✓ No central server
- ✓ No registration or personal information

HOW BITCHAT WORKS

- 1 Each device acts as both a sender and a relay.
- 2 Messages are forwarded through nearby devices.
- 3 The message travels across multiple devices until it reaches the destination.
- 4 No internet, no central server, more privacy.

Legal Framework:

- The directive was issued under Section 79(3) (b) of the Information Technology Act, 2000, read with Rule 3(1)(d) of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.
- Under Section 79, intermediaries such as GitHub enjoy safe harbour protection.
- If an intermediary fails to remove unlawful content after receiving official notice, it may lose this protection.
- However, Section 79 does not itself grant the power to block content.
- The authority to block public access generally flows from Section 69A of the Information Technology Act and the Blocking Rules, 2009. These provisions include procedural

safeguards such as recording the reasons for blocking and providing a review mechanism.

Why Is the Order Being Criticized?

- The Internet Freedom Foundation (IFF) has criticized the order, arguing that the government targeted the entire application based solely on its potential for misuse, without identifying any specific unlawful content hosted in the repositories.
- IFF has also contended that the order does not satisfy the principle of proportionality laid down by the Supreme Court of India in *Anuradha Bhasin v. Union of India* (2020).
- In this landmark judgment, the Court held that restrictions on internet access and communication must be:
 - » Necessary,
 - » Proportionate,
 - » Limited in scope,
 - » Temporary, and
 - » Balanced against citizens' fundamental rights while addressing national security concerns.

Conclusion:

The BitChat controversy highlights the need to strike a careful balance between national security, digital privacy, and freedom of communication. India requires a transparent, accountable, and proportionate regulatory framework that safeguards constitutional rights while effectively preventing the misuse of emerging technologies.

India's Formal Credit Expansion

Context:

A recent TransUnion CIBIL report, *Unlocking Access: Journey of Credit Expansion in India*, notes that while formal credit access has expanded significantly, rising consumer debt, slower borrower growth, and fewer first-time borrowers pose challenges to sustainable credit growth.

What is Formal Credit?

- Formal credit refers to loans provided by regulated financial institutions such as banks, NBFCs, cooperative banks, and microfinance institutions under the supervision of the Reserve Bank of India (RBI). It is characterised by:
 - » Transparent interest rates and legal safeguards.
 - » Credit history creation through CIBIL and other credit bureaus.
 - » Better consumer protection and access to larger, affordable loans.
 - » Reduced dependence on informal moneylenders charging exorbitant interest.

Key Findings:

- **Rising Indebtedness:** Over-leveraged borrowers increased from 5% (FY17) to 18% (FY24) before easing to 15% (FY26), with younger consumers being the most affected.
- **Slowing Borrower Growth:** The CAGR of credit-active consumers slowed from 14% (2017–19) to 9% (2024–26), indicating that initial financial inclusion gains are plateauing.
- **Declining First-Time Borrowers:** The share of New-to-Credit (NTC) borrowers fell from 32% in 2017 to 13% in 2026, showing lenders' increasing dependence on repeat borrowers.
- **Shift in Borrowing Pattern:** Consumption credit, including personal loans and credit cards, rose from 34% to 51%, reflecting a shift from asset-based to lifestyle-driven borrowing.
- **Commercial Credit Concerns:** Participation in commercial lending has declined, indicating that many MSMEs remain outside the formal credit ecosystem.
- **Regional Expansion:** States such as Uttar Pradesh, Madhya Pradesh, and Bihar have recorded faster credit growth than traditional leaders like Maharashtra and Tamil Nadu.

Challenges:

- Rising household debt and default risks.
- Declining financial inclusion momentum.
- Limited formal credit access for MSMEs.
- Greater dependence on unsecured consumer credit.

Reasons for Expansion of Formal Credit:

- **Digital Public Infrastructure:** Aadhaar, UPI, India Stack, and e-KYC simplified onboarding.
- **Financial Inclusion:** PM Jan Dhan Yojana expanded banking access.
- **FinTech Growth:** Digital lending platforms improved credit accessibility.
- **Government Schemes:** MUDRA, Stand-Up India, and CGTMSE promoted credit for entrepreneurs and MSMEs.
- **Improved Credit Information:** Credit bureaus and Account Aggregator framework enhanced risk assessment.

Way Forward:

- India should promote responsible lending, strengthen credit assessment, improve financial literacy, expand formal credit to first-time borrowers and MSMEs, and ensure robust regulatory oversight to maintain financial stability while sustaining inclusive credit growth.

Conclusion:

India's next phase of credit expansion must shift from merely increasing borrower numbers to ensuring responsible, inclusive, and sustainable credit growth, balancing financial inclusion with prudent risk management.



Defence and Internal Security

Digital Threat Report 2025–26: India's Cyber Security Strategy in the Age of AI

Context:

Recently, the Ministry of Electronics and Information Technology (MeitY) released the second edition of the Digital Threat Report 2025–26. The report provides a comprehensive analysis of emerging cyber threats facing India's Banking, Financial Services and Insurance (BFSI) and Digital Payments ecosystem. It also provides important guidance to financial institutions, regulators, and cybersecurity experts for developing future security strategies and strengthening Cyber Resilience.

Currently, India is among the world's fastest-growing digital economies. In this context, cybersecurity is not merely a technological requirement but has also become a critical issue for economic stability, financial trust, and national security.

What is a Digital Threat?

- A Digital Threat refers to any malicious activity, software, cyberattack, or security risk intended to compromise digital data, steal identities, damage hardware or networks, or disrupt digital services and day-to-day operations.
- India's digital economy is currently expanding at a rapid pace. With the increasing use of digital payments, internet banking, e-governance, and fintech services, cybersecurity challenges are also growing rapidly.

Major Types of Digital Threats

- **Malware and Ransomware:** Malware refers to malicious software that infects computers, mobile devices, or networks and disrupts their functioning. Ransomware encrypts data and demands a ransom from users to restore access to it. In recent years, such attacks on hospitals, banks, and government institutions have increased significantly.
- **Phishing and Digital Extortion:** Phishing involves the use of fake emails, websites, SMS messages, or social media messages to obtain banking details, OTPs, passwords, and other sensitive information from users. In recent years, online frauds such as "Digital Arrest" have emerged, which the Supreme Court of India has regarded as a serious threat to national security and the economy.
- **Artificial Intelligence (AI)-Based Cyber Threats:** Cybercriminals are increasingly using Artificial Intelligence to create deepfake videos, voice cloning, automated phishing attacks, and techniques to bypass biometric security systems. As a result, cyberattacks have become faster, more precise, and increasingly difficult to detect.
- **Data Breaches:** A data breach occurs when unauthorised access is gained to confidential personal or business information belonging to an individual, institution, or organisation, resulting in its theft or public disclosure. Such breaches can lead to financial losses, identity theft, and serious violations of privacy.

Key Findings of the Report:

■ **Rapid Evolution of Cyber Threats:**

- » According to the report, earlier there used to be a gap of several years between the identification of a new cyber vulnerability and its exploitation. This period has now reduced to a few months, weeks, or, in many cases, just a few days.
- » This means that financial institutions need to accelerate the process of applying security patches, updating systems, and conducting risk assessments.

■ **Increasing Sophistication of Cyberattacks:**

- » The report highlights that cyberattacks that were earlier considered emerging threats have now become common and widespread attack strategies. These include:
 - Social Engineering
 - Credential Theft
 - Supply Chain Compromise
 - Exploitation of Cloud Systems
- » Cybercriminals today are exploiting not only technological vulnerabilities but also human errors.

■ **Rise in AI-Enabled Cyberattacks:**

- » The report identifies “AI Asymmetry” as one of the most serious emerging risks.
- » With the help of Artificial Intelligence, even attackers with limited resources can launch sophisticated cyberattacks at extremely high speeds. AI-based phishing emails, deepfake videos, automated malware, and password-cracking attacks have become more effective than before.
- » On the other hand, the relatively slower response mechanisms of security agencies and regulators have created an asymmetry, posing a serious cybersecurity challenge.

■ **Increasing Difficulty in Detecting Cyberattacks:**

- » Modern cyberattacks are no longer as clearly visible as traditional attacks. In

many cases, malicious activities may appear similar to:

- Legitimate user logins
- Authorised payment transactions
- Normal office workflows

- » As a result, such attacks may remain undetected until the institution suffers financial or operational losses.

■ **Four-Layer Cyber Failure Framework:**

- » The report introduces a new analytical framework called the “Anatomy of Cyber Failure.”
- » According to this framework, most cyber breaches occur due to four interconnected weaknesses:
 - Flaws in system design
 - Weak implementation of security controls
 - Lack of effective detection mechanisms
 - Delays in institutional response
- » This framework can help institutions conduct a comprehensive assessment of their security strategies and determine priorities for cybersecurity investments.

■ **18-Month Cyber Resilience Roadmap:** The report presents a detailed action plan for financial institutions for the next 18 months. Key recommendations include:

- » Strengthening basic cybersecurity controls.
- » Conducting Continuous Risk Assessment.
- » Increasing information sharing between government agencies and private institutions.
- » Developing Advanced Cyber Resilience.
- » Establishing an adaptive and multi-layered security architecture.
- » Providing regular cybersecurity training to employees.
- » Increasing the use of AI-based cyber defence systems.

Major Cybersecurity Initiatives in India

- **CERT-In (Indian Computer Emergency Response Team):** CERT-In is India’s national

nodal cybersecurity agency functioning under the Ministry of Electronics and Information Technology (MeitY). It monitors and analyses cyber incidents, issues security alerts, and coordinates cybersecurity incident responses at the national level.

- **Digital Personal Data Protection Act, 2023:** The Digital Personal Data Protection Act, 2023 is India's comprehensive data protection law that provides a legal framework for the collection, use, processing, and protection of citizens' digital personal data. It aims to protect citizens' privacy and ensure accountability of organisations regarding data security.
- **Cyber Swachhta Kendra:** The Cyber Swachhta Kendra is the Government of India's Botnet Cleaning and Malware Analysis Centre initiative. It aims to protect citizens and organisations from malware and botnet infections. It provides identification of infected devices, free security tools, and public awareness programmes.
- **Indian Cyber Crime Coordination Centre (I4C):** The Indian Cyber Crime Coordination Centre (I4C), established under the Ministry of Home Affairs, works to coordinate law enforcement agencies across the country for the prevention, investigation, research, and capacity building related to cybercrime.
- **Citizen Financial Cyber Fraud Reporting System – Helpline 1930:** It is a national emergency helpline through which citizens can immediately report financial cyber fraud. It facilitates swift action to freeze suspicious bank accounts and attempts to prevent the fraudulent transfer or loss of funds.

Challenges:

According to the report, India continues to face several cybersecurity challenges:

- Shortage of cybersecurity professionals.
- Limited cybersecurity investment by small and medium-sized financial institutions.
- Increasing complexity of AI-based cybercrime.

- Growing dependence on cloud and third-party service providers.
- Lack of cybersecurity awareness among users.
- Need for greater international cooperation in investigating cross-border cybercrime.

Way Forward:

India needs to adopt a multi-dimensional cybersecurity strategy. Key measures include:

- Developing AI-based cybersecurity solutions.
- Adopting Zero Trust Security Architecture.
- Making regular cybersecurity audits and penetration testing mandatory.
- Conducting cybersecurity awareness programmes for employees and customers.
- Promoting cyber information sharing at national and international levels.
- Increasing investment in research and innovation.

Conclusion:

The Digital Threat Report 2025–26 clearly demonstrates that the success of India's digital economy depends significantly on cybersecurity. As digital banking, UPI, fintech, and Artificial Intelligence continue to expand, cyber threats are also becoming increasingly complex, sophisticated, and organised. Effective implementation of the recommendations outlined in the report will enable India not only to secure its digital financial infrastructure but also to strengthen its position as a safe, resilient, and trusted digital economy at the global level.

Short Issues

India-Indonesia Defence Deal

Why in News?

Recently, India and Indonesia have signed a landmark defence agreement for the export of the Astra Mk-1 Beyond-Visual-Range Air-to-Air Missile (BVRAAM). This marks India's first-ever export of an indigenous air-to-air missile to other country. Indonesia will procure the Astra Mk-1 to equip its Sukhoi Su-30 and Su-27 fighter aircraft.

About Astra Mk-1:

- The Astra Mk-1 is India's first indigenously developed Beyond-Visual-Range Air-to-Air Missile (BVRAAM) designed to engage and destroy highly manoeuvrable supersonic aircraft at long distances.

Key Features of Astra Mk-1:

Feature	Details
Developer	Defence Research and Development Organisation (DRDO)
Type	Beyond-Visual-Range Air-to-Air Missile (BVRAAM)
Range	80–110 km
Speed	Up to Mach 4.5
Warhead	15 kg high-explosive pre-fragmented warhead
Guidance System	Fire-and-forget active radar seeker with mid-course guidance
Operational Capability	All-weather, day-and-night operations
Compatible Platforms	Su-30MKI, LCA Tejas, and Indonesia's Su-30/Su-27 fighter aircraft

Astra Missile Variants:

Variant	Status	Key Features
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Astra Mk-1	Operational	Range: 80–110 km; powered by a smokeless solid-fuel rocket motor; currently integrated with the Indian Air Force's Su-30MKI and LCA Tejas.
Astra Mk-2	Under Development	Equipped with a dual-pulse solid rocket motor; expected range of 200–240 km with improved end-game performance.
Astra Mk-3	Under Development	Powered by a Solid Fuel Ducted Ramjet (SFDR) propulsion system; expected engagement range of over 350 km.

What is Beyond-Visual-Range Air-to-Air Missiles?

- Beyond-Visual-Range Air-to-Air Missiles (BVRAAMs) are advanced air-to-air missiles capable of engaging enemy aircraft beyond the pilot's visual range, generally beyond 37 km (20 nautical miles).

Advantages:

- Provides first-shot capability
- Neutralizes enemy aircraft before close-range combat
- Enhances pilot survivability
- Supports network-centric warfare through active radar guidance and data links

Significance of the Export:

- The Astra export represents a major milestone for India's defence industry.
- First export of an indigenous air-to-air missile.
- Enhances India's position as a reliable defence exporter.
- Reduces dependence on imported missile systems.
- Strengthens India's strategic partnership with Indonesia.
- Promotes the objectives of Atmanirbhar

Bharat and Make in India.

- Opens opportunities for exports to other friendly countries in Southeast Asia and beyond.

About Missile Technology Control Regime (MTCR):

- MTCR is a voluntary export control arrangement established in 1987 to prevent the spread of missiles and unmanned delivery systems capable of carrying weapons of mass destruction.
- **India and MTCR:**
 - » India became the 35th member on 27 June 2016.
 - » It improved India's non-proliferation image.
 - » It enabled access to advanced missile technologies and supported responsible defence exports.

About India's Missile Programme:

- Started with the Integrated Guided Missile Development Programme (IGMDP) in 1983 under Dr. A.P.J. Abdul Kalam.
- **Major systems developed:**
 - » **Agni** – Ballistic missile for nuclear deterrence.
 - » **Prithvi** – Surface-to-surface missile.
 - » **BrahMos** – Supersonic cruise missile (with Russia).
 - » **Akash** – Surface-to-air missile.
 - » **Nag** – Anti-tank guided missile.
 - » **Astra** – Beyond-visual-range air-to-air missile.

Conclusion:

The export of the Astra Mk-1 missile to Indonesia marks a significant milestone in India's journey from a major arms importer to a trusted defence exporter. It reflects the growing strength of India's indigenous defence industry, enhances strategic partnerships in the Indo-Pacific, and reinforces the country's commitment to Atmanirbhar Bharat, technological self-reliance, and regional security cooperation.

INS Mahendragiri: Project 17A Nilgiri-Class Frigate

Context:

Recently, The Indian Navy commissioned INS Mahendragiri, the sixth Project 17A (Nilgiri-class) stealth frigate, into the Eastern Fleet at Visakhapatnam on 11 July 2026.

About INS Mahendragiri:

- INS Mahendragiri is an advanced stealth guided missile frigate equipped with modern weapons and technologies such as:
 - » BrahMos supersonic cruise missiles
 - » Medium Range Surface-to-Air Missile systems
 - » Advanced radar and electronic warfare systems
 - » Anti-submarine warfare capabilities

Key features:

Feature	Details
Type	Stealth Guided Missile Frigate
Class	Project 17A / Nilgiri-class
Builder	Mazagon Dock Shipbuilders Limited (MDL)
Designer	Indian Navy's Warship Design Bureau
Fleet	Eastern Fleet
Indigenous Content	Around 75%
Role	Anti-air, anti-surface and anti-submarine warfare

What is Project 17A?

- Project 17A (Nilgiri-class frigates) is an Indian Navy programme under which seven advanced stealth guided missile frigates are being constructed at an estimated cost of around Rs.45,000 crore.
- These warships have been designed by the Indian Navy's Warship Design Bureau (WDB). They are advanced follow-on ships of the Project 17 Shivalik-class frigates.
- **Construction:**
 - » Mazagon Dock Shipbuilders Limited

(MDL), Mumbai is constructing 4 ships.

- » Garden Reach Shipbuilders & Engineers (GRSE), Kolkata is constructing 3 ships.
- With more than 75% indigenous content, the project promotes the Aatmanirbhar Bharat (Self-Reliant India) initiative. It involves participation from more than 200 Indian industries and MSME units.
- The Nilgiri-class frigates are equipped with advanced capabilities, including:
 - » Stealth technology
 - » BrahMos supersonic missiles
 - » Barak-8 Medium Range Surface-to-Air Missiles
 - » Advanced radar systems
 - » Electronic warfare systems
 - » Anti-submarine warfare capabilities
- These warships use a CODOG (Combined Diesel or Gas) propulsion system and an Integrated Platform Management System (IPMS) for efficient and effective operations.

Strategic Significance of INS Mahendragiri:

- **Strengthening Blue-Water Navy:** INS Mahendragiri enhances India's maritime capabilities and enables India to:
 - » Protect its maritime interests in the Indian Ocean Region (IOR).
 - » Conduct long-duration overseas naval deployments.
 - » Strengthen India's role as a security provider in the Indo-Pacific region.
- **Boost to Aatmanirbhar Bharat in Defence:** This warship reflects India's growing self-reliance through:
 - » Indigenous design by the Navy's Warship Design Bureau.
 - » Development of domestic shipbuilding capabilities.
 - » Participation of Indian industries and MSME units.
 - » With around 75% indigenous content, it highlights India's progress in the defence manufacturing sector.
- **Enhanced Combat Capability:** INS Mahendragiri strengthens multi-dimensional naval warfare capabilities

through:

- » **Anti-Air Warfare:** Ability to counter aircraft and missile threats.
- » **Anti-Surface Warfare:** Capability to engage enemy surface ships.
- » **Anti-Submarine Warfare:** Ability to detect and counter underwater threats.
- It is equipped with advanced sensors, weapon systems, and electronic warfare technologies.

Importance in the Indian Ocean Region:

- The Indian Ocean is highly significant due to global trade routes, energy transportation, and Sea Lines of Communication (SLOCs).
- INS Mahendragiri contributes to:
 - » Maritime security and anti-piracy operations.
 - » Maintaining freedom of navigation.
 - » Enhancing maritime domain awareness.
 - » Strengthening cooperation with partner countries.

Conclusion:

INS Mahendragiri represents an important step towards India becoming a technologically advanced and self-reliant maritime power. It strengthens India's naval capabilities, strategic autonomy, and role in ensuring security in the Indo-Pacific region.

MH-60R Seahawk Helicopter Strengthens Indian Navy

Context:

Recently, The Indian Navy has received another MH-60R Seahawk multi-role naval helicopter from the United States, strengthening India's anti-submarine warfare and maritime surveillance capabilities. The latest delivery at Kochi has increased the total number of MH-60R helicopters received by India to 21 out of the 24 ordered under a \$946 million Foreign Military Sales (FMS) agreement with the United States.

About MH-60R Seahawk Helicopter:

- The MH-60R Seahawk, also known as the “Romeo”, is an advanced multi-mission naval helicopter manufactured by Sikorsky Aircraft Corporation, a division of Lockheed Martin.
- Developed for the U.S. Navy, it is among the world’s most advanced maritime helicopters. The helicopter is designed mainly for:
 - » Anti-Submarine Warfare (ASW)
 - » Anti-Surface Warfare (ASuW)
 - » Maritime surveillance
 - » Search and rescue operations
 - » Medical evacuation and communication support

Key Features and Specifications:

- The MH-60R Seahawk has several advanced features:
 - » **Maximum Speed:** Around 333 km/h (180 knots)
 - » **Operational Range:** Approximately 830 km
 - » **Primary Weapons:** Mk 54 lightweight torpedoes and AGM-114 Hellfire missiles
 - » **Sensors:** Dipping sonar, sonobuoys, advanced radar and electro-optical systems
- These systems enable the helicopter to detect, track and engage underwater as well as surface threats effectively.

Strategic Importance for India:

- **Enhancing Anti-Submarine Warfare Capability:** The helicopter significantly improves India’s ability to detect and counter hostile submarines. With increasing submarine activity in the Indian Ocean, advanced ASW platforms are essential for protecting naval assets and maintaining maritime dominance.
- **Protection of Naval Fleets:** The MH-60R can operate from warships such as destroyers, frigates and aircraft carriers. It provides an additional layer of defence by protecting high-value naval platforms from underwater threats.
- **Improving Maritime Domain Awareness:**

Equipped with advanced sensors and surveillance systems, the Seahawk enhances India’s ability to monitor activities across its maritime zones, including vital sea lanes and strategic areas.



India-U.S. Defence Cooperation:

- The MH-60R acquisition highlights deepening defence ties between India and the United States. Both countries cooperate in areas such as maritime security, defence technology and joint military exercises like Malabar.
- The deal also supports cooperation under the Quad framework, which focuses on maintaining a free and open Indo-Pacific region.

Conclusion:

The induction of MH-60R Seahawk helicopters is a major step in modernising the Indian Navy and strengthening India’s maritime security capabilities. While the platform enhances India’s ability to respond to underwater threats, long-term strategic autonomy requires greater focus on indigenous defence manufacturing and technology development.

INS Malvan: India's 'Silent Claws' for Coastal Defence

Context:

The Indian Navy commissioned INS Malvan, the

second Mahe-class Anti-Submarine Warfare Shallow Water Craft (ASW-SWC), on 23 July 2026 at Karwar, Karnataka. The vessel's crest features the Wagh Nakh (Tiger's Claw), symbolising the maritime legacy of Chhatrapati Shivaji Maharaj.

About INS Malvan:

- INS Malvan is the second indigenously designed and built Mahe-class ASW-SWC, constructed by Cochin Shipyard Limited (CSL), Kochi, with over 80% indigenous content under the Aatmanirbhar Bharat initiative. Named after the coastal town of Malvan, Maharashtra, it also continues the legacy of the erstwhile minesweeper INS Malvan.
- The vessel is designed for anti-submarine warfare (ASW), underwater surveillance, mine warfare, coastal patrol and search-and-rescue operations. Equipped with diesel-waterjet propulsion, advanced sonar, radar, torpedoes and anti-submarine rockets, it is a key addition to India's coastal defence.

Wagh Nakh: Symbolism:

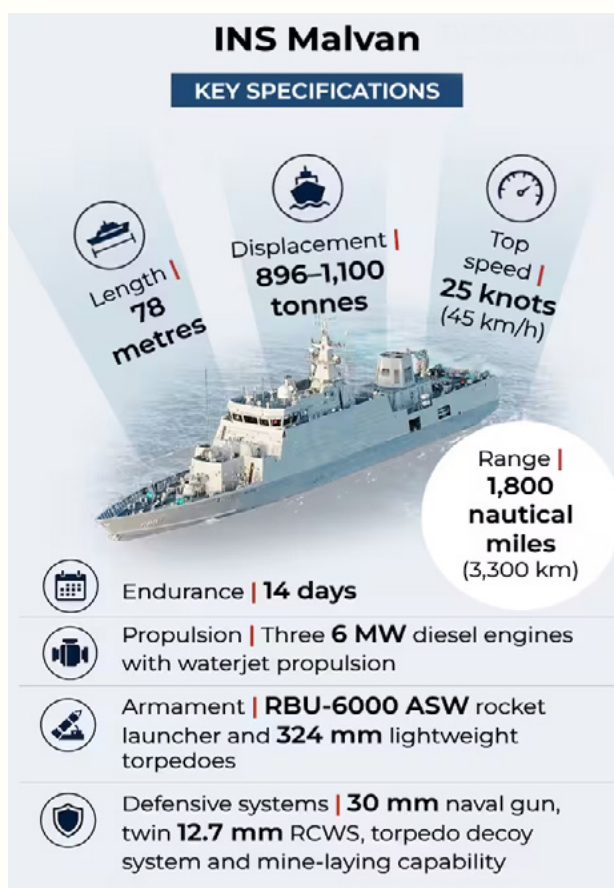
- The ship's crest features the Wagh Nakh, the iconic tiger-claw weapon associated with Chhatrapati Shivaji Maharaj. It symbolises courage, stealth, agility and decisive action, reflecting the vessel's role in silently detecting and neutralising underwater threats.
- The surrounding waves represent India's vast maritime domain, while the motto "Silent Claws" signifies stealth and precision.

What is the Mahe-class ASW-SWC?

- The Mahe-class is a new generation of indigenous warships specially designed for operations in shallow coastal waters. Their primary mission is to detect, track and destroy enemy submarines, particularly stealthy diesel-electric submarines. They also undertake underwater surveillance, mine warfare, coastal patrol, search and rescue, and other low-intensity maritime operations.

Key Features:

- » **Builder:** Cochin Shipyard Limited (CSL), Kochi
- » **Indigenous Content:** Over 80%
- » **Length:** 78 metres
- » **Displacement:** 896–1,100 tonnes
- » **Speed:** 25 knots
- » **Endurance:** 1,800 nautical miles
- » **Propulsion:** Diesel engines with water-jet propulsion for low noise and high manoeuvrability
- » **Combat Systems:** Indigenous sonar, radar, torpedoes, anti-submarine rockets and integrated communication systems



Strategic Importance:

- With a 11,098 km coastline, 12 major ports, 184 minor ports and 1,197 islands, India requires dedicated shallow-water anti-submarine platforms. The Mahe-class

protects ports, naval bases, offshore energy assets and Sea Lines of Communication (SLOCs).

- Integrated with coastal radar networks, underwater sensors and maritime patrol aircraft, these vessels enhance Maritime Domain Awareness (MDA) and strengthen India's layered coastal security in the Indian Ocean Region (IOR).

Need for Induction:

- The Mahe-class replaces the ageing Abhay-class corvettes, decommissioned between 2017 and 2025. To bridge this capability gap, the Defence Acquisition Council (DAC) approved the acquisition of 16 ASW-SWCs in 2013 at a cost exceeding Rs.13,000 crore.
- Eight vessels are being built by CSL (Mahe-class) and eight by Garden Reach Shipbuilders & Engineers (Arnala-class).

Conclusion:

The commissioning of INS Malvan marks a major milestone in India's naval modernisation. By combining indigenous technology, advanced anti-submarine capabilities and the maritime legacy of Chhatrapati Shivaji Maharaj, the Mahe-class significantly strengthens India's coastal defence and strategic presence in the Indian Ocean Region.

Kusha Missile

Context:

Recently, the Defence Research and Development Organisation (DRDO) successfully conducted the first flight test of the indigenous Kusha Long-Range Surface-to-Air Missile (LR-SAM) from Dr. A.P.J. Abdul Kalam Island, Odisha. The missile successfully intercepted a high-speed aerial target, validating its guidance system, radar integration, and interception capability. This achievement marks a significant milestone in India's indigenous long-range air defence programme under Project Kusha.

About Project Kusha:

- Project Kusha, also known as the Extended Range Air Defence System (ERADS), is an indigenous long-range Surface-to-Air Missile (SAM) programme being developed by DRDO.
- Its objective is to become the backbone of India's future long-range air defence system while reducing dependence on imported defence systems.
- Due to its long-range interception capability and multi-layered air defence architecture, it is often compared with Russia's S-400 air defence system.
- The system is designed to defend against the following aerial threats:
 - » Fighter aircraft
 - » Stealth aircraft
 - » Cruise missiles
 - » Helicopters
 - » Unmanned Aerial Vehicles (UAVs)/Drones
 - » Airborne Early Warning and Control (AEW&C) aircraft
- The system will work in conjunction with India's Ballistic Missile Defence (BMD) programme to provide comprehensive air and missile defence.

Key Features of Project Kusha:

- It includes three types of interceptor missiles:
 - » **M1:** Range of 150 km
 - » **M2:** Range of 250 km
 - » **M3:** Range of 350–400 km
- Provides a multi-layered air defence shield.
- Will be integrated with the Integrated Air Command and Control System (IACCS).
- Uses advanced radars, mobile launchers, and a network-centric command system for real-time target detection, tracking, and interception.
- It is also a key component of Mission Sudarshan Chakra and strengthens the vision of Atmanirbhar Bharat (Self-Reliant India) in the defence sector.



What is Mission Sudarshan Chakra?

- Project Kusha forms the foundation of Mission Sudarshan Chakra, India's ambitious initiative to establish a nationwide indigenous Air and Missile Defence Shield by 2035.
- The importance of this mission has increased significantly following Operation Sindoor and the recent conflicts in Ukraine and West Asia, which highlighted the growing threats posed by drones, cruise missiles, and ballistic missiles.
- **Objectives of the Mission:**
 - » Protection of strategic military assets.
 - » Safeguarding critical civilian infrastructure.
 - » Establishment of an integrated, multi-layered air defence network.

Difference between S-400 and Project Kusha:

- Unlike Russia's S-400 system, the primary focus of Project Kusha is to neutralize:
 - » Fighter aircraft
 - » Stealth aircraft
 - » Cruise missiles
 - » Drones
- Protection against ballistic missiles will be provided separately through India's Ballistic Missile Defence (BMD) programme.

- Together, the two systems will provide India with a comprehensive national air defence shield.

Significance:

- Strengthens the Atmanirbhar Bharat initiative.
- Reduces dependence on imported air defence systems.
- Demonstrates India's capability to develop advanced missile technology and integrated defence networks.
- Promotes collaboration among DRDO, Public Sector Undertakings (PSUs), private industries, and research institutions.
- Strengthens India's Defence Industrial Ecosystem.
- Enhances India's long-term national security.

Conclusion:

The successful maiden flight test of the Kusha missile marks a historic milestone in India's journey towards self-reliance in defence technology. As a key pillar of Project Kusha and Mission Sudarshan Chakra, the system will significantly enhance India's multi-layered air defence capabilities and provide effective protection against evolving aerial threats. Its success will not only strengthen India's national security but also establish the country among the world's leading developers of advanced air defence systems.

INS Machilipatnam: Mahe-Class ASW-SWC Warship

Context:

On 29 July 2026, the Indian Navy launched INS Machilipatnam (BY 529), the seventh of the eight Mahe-class Anti-Submarine Warfare Shallow Water Craft (ASW-SWC), at Cochin Shipyard Limited (CSL), Kochi.

Background:

- The Ministry of Defence signed a contract

with Cochin Shipyard Limited (CSL) on 30 April 2019 for the construction of eight Mahe-class ASW-SWC vessels, with deliveries scheduled between August 2025 and June 2028.

- These ships are designed to replace the ageing Abhay-class ASW corvettes and enhance the Indian Navy's operational capability in shallow and littoral waters.

Key Features of Machilipatnam:

- **Role:** Designed for Anti-Submarine Warfare (ASW), underwater surveillance, mine warfare, Low Intensity Maritime Operations (LIMO), and Search and Rescue (SAR) missions.
- **Dimensions:** Approximately 78 metres long with a displacement of 900–1,100 tonnes.
- **Speed & Propulsion:** Powered by diesel engines coupled with water-jet propulsion, enabling speeds of around 25 knots and superior manoeuvrability in shallow coastal waters.
- **Advanced Sensors:** Equipped with hull-mounted sonar and low-frequency variable-depth sonar for underwater detection and surveillance.
- **Armament:** Features lightweight torpedoes, anti-submarine rockets, a 30 mm naval gun, and mine-laying capability.
- **Indigenous Content:** More than 80% indigenous, with major contributions from Bharat Electronics Limited (BEL), Larsen & Toubro (L&T), and Indian MSMEs.

About ASW-SWC Programme:

- The Anti-Submarine Warfare Shallow Water Craft (ASW-SWC) Programme involves the development of a new class of indigenous shallow water warships for the Indian Navy. These vessels are being built by Cochin Shipyard Limited (CSL) and Garden Reach Shipbuilders & Engineers (GRSE).
- A total of 16 warships are planned under the programme.
- 8 Mahe-class warships will be constructed by CSL, while 8 Arnala-class warships will

be built by GRSE.

- These vessels are specifically designed for operations in coastal (littoral) waters, where the maneuverability of larger warships is limited.

Strategic Significance:

- The new class will significantly strengthen India's coastal security, Maritime Domain Awareness (MDA), and anti-submarine warfare (ASW) capabilities.
- It will enhance the Indian Navy's ability to monitor and effectively counter the increasing submarine activity in the Indian Ocean Region (IOR).
- The ships will provide improved protection for ports, sea lines of communication (SLOCs), and offshore assets.
- They will replace aging vessels with modern, high-speed, and technologically advanced warships.
- The project also strengthens India's defence manufacturing ecosystem and supports the objectives of the Aatmanirbhar Bharat and Make in India initiatives.

Way Forward:

- Ensure the induction of all 16 ASW-SWC vessels into the Indian Navy within the stipulated timeline.
- Integrate indigenously developed advanced sonar systems, weapon systems, and other modern equipment.
- Continue the modernization of the coastal surveillance network.
- Expand indigenous naval shipbuilding capabilities to reinforce India's strategic self-reliance.
- Support India's long-term vision of becoming a leading maritime power in the Indo-Pacific region.

Place in News

Ceuta: Strategic Spanish Enclave in North Africa

Ceuta has come into the spotlight following an unprecedented migration surge between 29–31 July 2026, when nearly 50,000–60,000 migrants attempted to enter the Spanish enclave from Morocco by swimming across the sea or breaching border barriers.

About Ceuta:

- Ceuta is a Spanish autonomous city located on the northern coast of Africa, covering an area of 18.5 sq km. It lies on a narrow peninsula along the Strait of Gibraltar, where the Mediterranean Sea meets the Atlantic Ocean, and shares an 8-km land border with Morocco.

Geographical Significance:

- Situated about 14 km south of mainland Spain across the Strait of Gibraltar.
- Surrounded by the sea on three sides and connected to the African mainland by an isthmus.
- Along with Melilla, Ceuta forms one of the European Union's only two land borders with Africa.
- Its strategic location makes it an important gateway for trade, maritime navigation, migration, and border management between Europe and Africa.



Importance:

- Ceuta's location at the crossroads of Europe and Africa makes it a focal point for migration, security, and EU–Morocco relations, highlighting the challenges of managing irregular migration while balancing humanitarian and geopolitical concerns.

Qeshm Island and Pickaxe Mountain

Qeshm Island and Pickaxe Mountain (Kuh-e Kolang Gaz La) have gained attention amid escalating tensions between the United States and Iran. Pickaxe Mountain is reportedly at the centre of concerns over Iran's nuclear programme, while Qeshm Island has come under scrutiny following reports of a U.S. airstrike that caused civilian casualties, further intensifying tensions in the Strait of Hormuz.

Qeshm Island:

- Qeshm Island is the largest island in the Persian Gulf, covering about 1,500 sq km. It is strategically located in the Strait of Hormuz, separated from mainland Iran by the Clarence

Strait.

▪ **Geographical Features:**

- » Characterised by table-topped hills, rocky coastlines, and wind-eroded valleys such as the famous Stars Valley.
- » Home to the Harra mangrove forests, coral reefs, and extensive mudflats.
- » Experiences a hot desert climate with very low rainfall.

About Pickaxe Mountain (Kuh-e Kolang Gaz La):

- Pickaxe Mountain is located in Isfahan Province, about 1.5 km south of the Natanz nuclear facility, within Iran's Zagros Mountain fold belt.
- **Geological Features:**
 - » Composed of hard volcanic rocks such as andesite, dacite, and rhyolite.
 - » Contains dense fractured rock and fault zones that help absorb seismic shocks.
 - » The mountain's great depth provides natural protection for underground tunnel complexes.



Glasgow (Scotland)

Glasgow, Scotland's largest city, is in the news for hosting the 23rd Commonwealth Games, featuring participation from 74 Commonwealth nations and territories, along with several historic sporting debuts.

- **Location:** Glasgow is situated in west-central Scotland on the banks of the River Clyde. It lies within the Midland Valley (Scottish Lowlands), approximately 20 miles (32 km) from the mouth of the Clyde Estuary, where the river flows into the Atlantic Ocean.

Geographical Features:

- Located in the Lower Clyde Basin, a broad valley carved by the River Clyde.
- The city has low-lying terrain interspersed with gentle hills, ridges, and drumlins, including the



elevated areas around Glasgow Cathedral and the Necropolis.

- Bounded geographically by the Scottish Highlands to the north and the Southern Uplands to the south.

Hydrology:

- The River Clyde is Glasgow's principal river, dividing the city into northern and southern parts.
- It has historically been deepened and dredged, making Glasgow a major centre for shipbuilding and maritime trade.
- Important tributaries include the River Kelvin and the Molendinar Burn, the latter associated with the city's historic origins.

Significance:

- Often called the "Dear Green Place", Glasgow is renowned for its extensive parks such as Glasgow Green and Kelvingrove Park, its industrial heritage, and its prominence as one of the United Kingdom's leading centres for culture, education, sports, and commerce.

Siang Upper Multipurpose Project

The Siang Upper Multipurpose Project (SUMP) has been in the news due to ongoing discussions over its strategic importance, environmental concerns, and local opposition. The project is being developed to enhance India's water and energy security and counter the potential impacts of upstream dam construction by China on the Yarlung Tsangpo.

About Siang Upper Multipurpose Project (SUMP):

- The Siang Upper Multipurpose Project (SUMP) is a proposed 11,000 MW hydroelectric and multipurpose project on the Siang River in Upper Siang district, Arunachal Pradesh.
- It envisages a 9 billion cubic metre (BCM) storage reservoir.
- It is one of India's largest planned hydroelectric projects.



About Siang River:

- Originates as the Yarlung Tsangpo in the Chemayungdung Range near Mount Kailash–Lake Mansarovar in Tibet at about 5,300 m.
- Flows through the world's deepest river gorge before entering India near Gelling village in Arunachal Pradesh, where it is known as the Siang.
- Joins the Dibang and Lohit rivers in Assam to form the Brahmaputra River.

Power Packed News

Favara-UPI

- To strengthen financial connectivity between India and the Maldives, the Favara-UPI cross-border payment corridor was officially launched on 30 July 2026. Under this initiative, the Maldives' instant payment system Favara has been successfully integrated with India's Unified Payments Interface (UPI). The corridor has been developed through the collaboration of NPCI International Payments Limited (NIPL), the Maldives Monetary Authority (MMA), and the Reserve Bank of India (RBI).
- Through this digital payment corridor, Maldivian residents can now use their local mobile banking applications to send real-time remittances directly to any UPI-enabled bank account in India. Transactions initiated in Maldivian Rufiyaa (MVR) will be automatically converted and credited in Indian Rupees (INR) to the recipient's account. In the first phase, the service has gone live with the Bank of Maldives PLC and the Maldives Islamic Bank PLC, allowing users to transfer money for family maintenance and gift purposes under foreign remittance regulations. Future phases will introduce QR code-based merchant payments for tourists, further boosting trade, tourism, and financial inclusion between the two countries.

Indian Cricketer Ajinkya Rahane Retires from International Cricket

- Former Indian captain and veteran batter Ajinkya Rahane announced his retirement from international cricket and all forms of the game, including the Indian Premier League (IPL), on 30 July 2026. The 38-year-old shared the announcement through his social media accounts.
- Rahane, who made his international debut in 2011, represented India in 85 Test matches, scoring 5,077 runs, including 12 centuries, and in 90 One-Day Internationals (ODIs), scoring 2,962 runs with three centuries. Notably, India never lost a Test match in which Rahane scored a century.
- He will be best remembered for his inspirational leadership during the 2020–21 Border-Gavaskar Trophy. After India was bowled out for 36 runs in Adelaide, Rahane took over the captaincy and led the team to a historic 2–1 series victory in Australia, ending Australia's 32-year unbeaten record at the Gabba. As Test captain, he remained unbeaten with four wins and two draws. In IPL 2026, he captained the Kolkata Knight Riders (KKR).

Pralhad Joshi Given Additional Charge of the Education Ministry

- Union Cabinet Minister Pralhad Joshi has been assigned the additional charge of the Ministry of Education. The development follows the resignation of Union Education Minister Dharmendra Pradhan amid allegations of irregularities in competitive examinations and nationwide student protests. On the recommendation of Prime Minister Narendra Modi, President Droupadi Murmu accepted his resignation with immediate effect under Article 75(2) of the Constitution of India.
- Pralhad Joshi currently heads the Ministry of Consumer Affairs, Food and Public Distribution as well as the Ministry of New and Renewable Energy. As the additional Education Minister, his focus will be on accelerating the implementation of national education policies and strengthening digital learning initiatives. A five-time Member of Parliament from the Dharwad Lok Sabha constituency in Karnataka, Joshi is currently serving as a senior Union Cabinet

Minister.

India's First Indigenous Turbojet Engine

- India has achieved a major milestone in defence self-reliance by developing its first indigenous 350 kg thrust-class expendable (disposable) turbojet engine. The engine is primarily designed to power cruise missiles, unmanned aerial vehicles (UAVs), and long-range drones.
- The advanced engine has been indigenously designed by the Gas Turbine Research Establishment (GTRE), a laboratory under the Defence Research and Development Organisation (DRDO). Hyderabad-based private firm Azad Engineering manufactured the engine in a record time of just 24 months and handed it over to GTRE.
- Until now, India depended on foreign suppliers for engines in this category. With this achievement, India has joined the select group of elite nations possessing indigenous jet engine development capabilities. The development is expected to reduce defence imports and significantly strengthen the 'Aatmanirbhar Bharat' (Self-Reliant India) initiative in the defence sector.

FIFA World Cup 2026: Spain Wins Its Second World Cup Title

- In the historic 23rd edition of the FIFA World Cup 2026, Spain defeated defending champions Argentina 1-0 in the final to win its second FIFA World Cup title.
- Hosts:** For the first time, the FIFA World Cup was jointly hosted by the United States, Mexico, and Canada.
- Teams:** The tournament expanded from 32 to 48 teams, with a total of 104 matches played.
- Venues:** Matches were held across 16 cities in North America. The opening match took place at Estadio Azteca in Mexico, while the final was played at MetLife Stadium in New Jersey.
- Major Award Winners**
 - » **Golden Ball (Best Player):** Rodri (Spain)
 - » **Golden Boot (Top Scorer):** Kylian Mbappé (France) – 10 goals (He became the first male player to win the Golden Boot in two consecutive FIFA World Cups.)
 - » **Golden Glove (Best Goalkeeper):** Unai Simón (Spain) – 7 clean sheets
 - » **Best Young Player:** Pau Cubarsí (Spain)
 - » **FIFA Fair Play Trophy:** Netherlands

'Shabdlok': India's First Language Museum

- India's first language museum, 'Shabdlok' (Museum of Words), has been inaugurated at the historic National Library (Belvedere House) in Kolkata to preserve the country's rich linguistic heritage.
- It was inaugurated on 19 July 2026 by Union Home Minister Amit Shah. Developed under the Ministry of Culture, the museum has been established jointly by the National Library and the National Council of Science Museums (NCSM) at a cost of Rs.41 crore.
- The museum is equipped with advanced technologies such as Artificial Intelligence (AI), Augmented Reality/Virtual Reality (AR/VR), and holographic displays. It features nine galleries and twelve exhibition rooms, showcasing the evolution of Indian languages from ancient Brahmi and Kharosthi scripts to the modern digital era.
- Through interactive exhibits, it highlights the origin and development of nearly 380 languages,

including India's 22 official languages. The museum is expected to play a significant role in preserving India's linguistic heritage and connecting future generations with the country's cultural diversity.

Ex Post Facto Environmental Clearance

- The Supreme Court of India recently struck down the 2021 Office Memorandum (OM), holding that ex post facto environmental clearances cannot be granted merely through an administrative order. The Court clarified that Environmental Clearance (EC) must be obtained before the commencement of any project, and any fundamental change to this requirement can only be made through a statutory notification.
- The Court invalidated the 2021 Office Memorandum, which had allowed projects that commenced without prior environmental clearance to obtain approval retrospectively. Under the Environmental Impact Assessment (EIA) Notification, 2006, prior environmental clearance is mandatory before the start of any project. The Court observed that environmental safeguards cannot be diluted through executive or administrative orders. However, it noted that Parliament or the Central Government may establish an appropriate legal framework through a statutory notification, if required.
- The judgment reinforces the principles of Sustainable Development and the Precautionary Principle. It is expected to strengthen environmental accountability among project proponents and discourage the practice of regularising unauthorised projects after their commencement. The ruling also reinforces environmental governance, the Rule of Law, and the right to a clean and healthy environment under Article 21 of the Constitution of India.

R. Vairamuthu Receives the 60th Jnanpith Award

- Renowned Tamil poet, lyricist, and author R. Vairamuthu has been conferred the 60th Jnanpith Award for the year 2025. The prestigious honour was presented by eminent scholar Dr. Karan Singh at a ceremony held in New Delhi.
- Vairamuthu is the third Tamil writer from Tamil Nadu to receive India's highest literary honour. The award has returned to Tamil literature after a gap of 24 years. Earlier recipients from Tamil literature were Akilan (1975) and Jayakanthan (2002).
- Unlike the previous two awardees, who were honoured for prose, Vairamuthu has become the first Tamil poet to receive the Jnanpith Award. He was presented with a cash prize of Rs.11 lakh, a citation, and a bronze statue of Goddess Vagdevi (Saraswati). He is also a recipient of the Sahitya Akademi Award (2003) and has won the National Film Award seven times.
- The Jnanpith Award is India's highest literary honour. It was instituted in 1961 by Sahu Shanti Prasad Jain of the Sahu Jain family. The first award was presented in 1965 to G. Sankara Kurup, a Malayalam writer. In 1976, Ashapurna Devi became the first woman to receive the award.
- The award is presented only to Indian citizens for their lifetime contribution to literature in any of the 22 languages listed in the Eighth Schedule of the Constitution, as well as English. It is not awarded posthumously. The recipient receives Rs.11 lakh, a citation, and a bronze statue of Vagdevi (Goddess Saraswati).

India Keeps the Indus Waters Treaty in Abeyance

- India has recently reiterated that the Indus Waters Treaty (IWT) will remain in abeyance until Pakistan credibly and irrevocably renounces cross-border terrorism. According to India, changing security conditions, climate change, and evolving developmental needs have made the existing framework of the treaty no longer relevant.
- The Indus Waters Treaty, signed in 1960 between India and Pakistan with the World Bank acting as a mediator, allocates the eastern rivers—Ravi, Beas, and Sutlej—to India, while the western rivers—Indus, Jhelum, and Chenab—are allocated primarily to Pakistan.
- India decided to place the treaty in abeyance in April 2025 and has maintained this position ever since. It is now accelerating the development of hydropower projects in the Chenab basin while also working towards a review of the treaty framework.

72nd National Film Awards

- The 72nd National Film Awards 2024 were recently announced in New Delhi. The awards recognize films certified by the Central Board of Film Certification (CBFC) between 1 January and 31 December 2024. The jury was chaired by renowned Malayalam filmmaker Jayaraj.
- Major Award Winners:**
 - » **Best Feature Film:** Article 370
 - » **Best Actor:** Kartik Aaryan (Chandu Champion) and Mammooty (Brahmayugam)
 - » **Best Actress:** Yami Gautam (Article 370)
 - » **Best Director:** Rajkumar Periasamy (Amaran)
 - » **Best Supporting Actor:** Sanjay Mishra (Bhakshak)
 - » **Best Supporting Actress:** Rupashree Varakadi (Mithya) and Sachana Namidass (Maharaja)
 - » **Best Popular Film Providing Wholesome Entertainment:** Kalki 2898 AD
 - » **Best Hindi Film:** Srikanth
 - » **Best Film Promoting National and Social Values:** Captain Miller
 - » **Best Debut Film of a Director:** Swatantrya Veer Savarkar (Director: Randeep Hooda)
 - » **Best Children's Film:** 35 Chinna Katha Kaadu

UP Reports the Highest Number of Cyber Fraud Complaints

- According to the latest official data released by the Ministry of Home Affairs (MHA) in July 2026, more than 1.271 million cyber fraud cases were reported across India during the first half of 2026 (January–June), resulting in financial losses of Rs.10,178.97 crore.
- Uttar Pradesh recorded the highest number of complaints, with over 185,000 cases, while Maharashtra reported the highest financial loss, amounting to Rs.1,637.66 crore.
- Major cyber crimes included digital arrest scams, online investment fraud, phishing, fake loan applications, and impersonation of government officials. Out of the total complaints, banks were able to place a lien on Rs.2,968.85 crore in nearly 270,000 cases, preventing further financial losses.
- Between 2021 and May 2026, cyber fraud caused cumulative financial losses of Rs.64,447 crore across the country.
- The rapid rise in cybercrime poses a serious challenge to India's digital economy, financial security, and public trust in digital services. It highlights the urgent need to strengthen cybersecurity infrastructure, improve digital literacy, develop faster grievance redressal mechanisms, and enhance coordination between banks and law enforcement agencies.

Integrated Anti-Ballistic Missile Coalition

- Ukraine and nine European countries have jointly launched the Integrated Anti-Ballistic Missile Coalition, marking a historic step towards strengthening Europe's collective air and missile defence capabilities. The initiative was officially announced during a special meeting held in Paris, France.
- Along with Ukraine, the coalition includes France, Germany, the United Kingdom (UK), Italy, Spain, the Netherlands, Denmark, Norway, and Sweden. The primary objective of the alliance is to build a unified European capability to counter the growing threat of aerial and ballistic missile attacks. It aims to develop a shared and comprehensive ballistic missile defence shield for the entire European continent.
- The defence system will incorporate the operational and technological lessons learned by Ukraine during the Russia-Ukraine war, enhancing its effectiveness against modern missile threats.
- This initiative is expected to strengthen Ukraine's security while reducing Europe's traditional dependence on U.S. defence systems. It also promotes Europe's collective security, strategic autonomy, and military self-reliance. From a global security and geopolitical perspective, it is regarded as one of the most significant defence initiatives in recent years.

Emerging Medical Therapies Brought Under the CLAA Framework

- The Central Government has recently amended the Drugs Rules, 1945 to bring cell/stem cell-based products, gene therapeutic products, and xenografts under the regulatory framework of the Centrally License Approving Authority (CLAA). The objective is to establish a uniform and robust regulatory system for emerging medical technologies across the country.
- The Centrally License Approving Authority (CLAA) is a joint regulatory mechanism of the Central and State Governments responsible for licensing and regulating high-risk drugs and biological products.
- Earlier, the CLAA framework covered vaccines, Large Volume Parenterals (LVPs), and recombinant DNA (r-DNA)-based drugs. It has now been expanded to include advanced therapeutic products.
- Cell and stem cell-based therapies, such as CAR-T Cell Therapy, are used in the treatment of blood cancers.
- Gene therapy is used for treating genetic disorders and various forms of cancer.
- Xenografts are transplant products derived from animal tissues, such as artificial heart valves.
- **Significance:**
 - » Establishes uniform regulatory standards across India.
 - » Enhances patient safety and ensures the quality of advanced therapies.
 - » Strengthens India's regulatory framework in line with global standards.
 - » Promotes innovation in advanced medicine and biotechnology.

Two New Digital Platforms Launched

- The Government of Uttar Pradesh has launched two new digital platforms "Kaushal Setu and Kaushal Sarathi" to make the state's skill development ecosystem fully paperless, transparent, and digitally enabled. The portals were unveiled on 15 July 2026 on the occasion of World

Youth Skills Day.

- » **Kaushal Setu:** It is the digital portal of the Uttar Pradesh Skill Development Mission (UPSDM). The portal facilitates completely paperless online registration and empanelment of training partners, making the process faster and more transparent.
- » **Kaushal Sarathi:** It serves as a comprehensive information platform for youth. Using its digital map, students can easily locate training centres, available courses, and contact details in their respective districts.
- For the current financial year, the Skill Development Department's budget has been increased ninefold to Rs.3,310 crore. The state government has also set an ambitious target of training one million (10 lakh) youth in modern technologies such as Artificial Intelligence (AI) and Robotics during 2026–27.

Wimbledon Championships 2026

- The 139th edition of the Wimbledon Championships—the world's most prestigious tennis tournament—was successfully held at the All England Club, London. Wimbledon remains the only Grand Slam tournament played on natural grass courts.
 - » **Men's Singles:** Jannik Sinner (Italy) defeated Alexander Zverev (Germany) in the final to win his second consecutive Wimbledon title and the fifth Grand Slam title of his career.
 - » **Women's Singles:** Linda Nosková (Czech Republic) defeated her compatriot Karolína Muchová to claim the first Grand Slam title of her career.
 - » **Men's Doubles:** Harri Heliövaara (Finland) and Henry Patten (United Kingdom) won the men's doubles title.
 - » **Women's Doubles:** Guo Hanyu (China) and Kristina Mladenovic (France) claimed the women's doubles championship.
 - » **Mixed Doubles:** Marcelo Arévalo (El Salvador) and Jeļena Ostapenko (Latvia) won the mixed doubles title.
- Wimbledon is the oldest and most prestigious tennis tournament in the world. It is one of the four annual Grand Slam tournaments, alongside the Australian Open, French Open, and US Open, and is the only Grand Slam still played on natural grass courts. The tournament is organized annually by the All England Lawn Tennis and Croquet Club (AELTC) in Wimbledon, London.

Global Passport Index 2026

- The Global Passport Index 2026 has recently been released, with India ranked 125th. Unlike traditional passport rankings that focus primarily on visa-free travel, this index evaluates a passport's overall global value based on factors such as global mobility, investment opportunities, and quality of life.
- The United Arab Emirates (UAE) secured the top position in the Global Passport Index 2026.
- India ranked 125th, with a Mobility Rank of around 135 and a Quality of Life Rank of 118.
- The index differs from conventional passport rankings by considering economic opportunities and living standards alongside travel freedom.
- In contrast, the Henley Passport Index 2026 ranks India 80th, with Indian passport holders enjoying visa-free, visa-on-arrival, or e-Travel Authorization access to 56 destinations.
- The index is considered an indicator of a country's global diplomatic reach, economic attractiveness, and international mobility.

Andy Burnham Becomes the New PM of the United Kingdom

- Former Mayor of Greater Manchester and senior Labour Party leader Andy Burnham was sworn in as the 59th Prime Minister of the United Kingdom on 20 July 2026. He assumed office following the resignation of former Prime Minister Keir Starmer and became the seventh UK Prime Minister in the past decade.
- Burnham served as the Mayor of Greater Manchester from 2017 to 2026. He returned to the House of Commons (Westminster) after winning the Makerfield by-election in June 2026. Earlier in his political career, he had served as the Secretary of State for Health and the Secretary of State for Culture.
- Soon after taking office, Burnham announced his new Cabinet. He appointed John Healey as Chancellor (Finance Minister) and Ed Miliband as Foreign Secretary. The Cabinet also includes three young Members of Parliament of Indian origin, including Kanishka Narayan, who has been appointed as the new AI Minister.
- Burnham has pledged to bring a major "circuit-breaker" to British governance. His key priorities include controlling inflation, improving public services, expanding public housing, and increasing government control over the country's energy and water infrastructure.

Indian Air Force Ranked Third in Global Air Power Rankings 2026

- According to the Global Air Power Rankings 2026 released by the World Directory of Modern Military Aircraft (WDMMA), the Indian Air Force (IAF) has secured the third position in the country-wise global rankings. India has maintained this position for the fifth consecutive year.
- The IAF has surpassed China's People's Liberation Army Air Force (PLAAF) in the rankings. India is now behind only the United States and Russia in the country-wise list. The IAF received a score of 69.4, while the PLAAF scored 63.8.
- When individual military branches (such as the U.S. Navy and U.S. Marine Corps Aviation) are ranked separately, the IAF is placed sixth, while China's air force ranks seventh.
- The WDMMA rankings are based not only on the number of aircraft, but also on factors such as fleet diversity, modernization, logistics capability, offensive strength, and indigenous defence manufacturing, including platforms like the Tejas fighter aircraft under the Aatmanirbhar Bharat initiative. India's balanced and modern fleet gives it an advantage over China's larger but less diversified air force.

India's Wind Power Capacity Crosses 57,443 MW

- India's installed wind power capacity has recently crossed 57,443 megawatts (MW), reaffirming its position as the fourth-largest producer of wind energy in the world. The milestone marks significant progress towards India's clean energy transition and its target of achieving 500 GW of non-fossil fuel-based power generation capacity by 2030.
- India's total installed wind energy capacity has now reached 57,443 MW.
- Gujarat has the highest installed wind power capacity in the country, followed by Tamil Nadu, Karnataka, Maharashtra, and Rajasthan. India possesses an estimated technical onshore wind energy potential of around 695 GW at a 120-metre hub height.
- The Government is promoting the sector through initiatives such as the National Wind-Solar Hybrid Policy, offshore wind energy projects, and the Green Energy Corridor.
- Wind energy plays a crucial role in reducing dependence on fossil fuels and lowering carbon

emissions. It also contributes to energy security, green employment, and sustainable economic growth. The continued expansion of wind power capacity will strengthen India's progress towards its Net Zero by 2070 target and reinforce its leadership in the global renewable energy sector.

AISHE Reports 2022-23 and 2023-24

- The Ministry of Education has released the All India Survey on Higher Education (AISHE) reports for 2022-23 and 2023-24. The reports highlight the significant progress and positive transformation taking place in India's higher education sector.
- **Record-High Enrolment:** Total enrolment in higher education has crossed 45 million (4.5 crore) students, marking an increase of nearly 31.5% compared to 2014-15.
- **Gross Enrolment Ratio (GER):** The GER for the 18-23 age group has increased to 30%.
- **Women's Empowerment:** The female GER (31.2) has surpassed the male GER (30.0). The Gender Parity Index (GPI) stands at 1.08, indicating strong female participation in higher education.
- **STEM Participation:** Women's enrolment in Science, Technology, Engineering, and Mathematics (STEM) disciplines has increased to 44%.
- **Social Inclusion:** Compared to 2014-15, enrolment of Scheduled Tribes (STs) has increased by 75.7%, Other Backward Classes (OBCs) by 60.2%, and Scheduled Castes (SCs) by 51.4%.
- **Institutions and Faculty:** The number of universities has increased to 1,289, while the total number of teachers has reached 1.732 million (17.32 lakh).
- The report reflects the success of India's education policies and demonstrates the expanding access to higher education for all sections of society.

India's 'Samridh Gram' Project Wins the Global WSIS Award 2026

- The Department of Telecommunications (DoT) has received the prestigious World Summit on the Information Society (WSIS) Award 2026 for its flagship initiative, 'Samridh Gram: Integrated Phygital Service Delivery Model', at the WSIS Forum 2026 held in Geneva, Switzerland. The award was presented by the International Telecommunication Union (ITU) under the Action Line C6 – Enabling Environment category.
- The project is built upon BharatNet, the world's largest rural broadband network, with the objective of eliminating the digital divide between rural and urban areas.
- Under this model, one-stop community hubs are being established in villages, integrating physical infrastructure with digital platforms. These centres provide rural citizens with essential services close to their homes, including telemedicine, digital classrooms, agricultural advisory services, e-governance, banking, and e-commerce.
- India's first Samridh Centre was established in Umri village of Guna district, Madhya Pradesh. The award recognizes India's growing global leadership in Digital Public Infrastructure (DPI) and rural digital empowerment.

'TribeX': India's First Tribal Digital Learning Platform

- The Ministry of Tribal Affairs launched 'TribeX', India's first digital learning platform dedicated to tribal communities, on 7 July 2026 in Bhubaneswar, Odisha. The platform aims to digitally preserve and promote India's rich tribal art, culture, languages, traditional knowledge, and indigenous skills.

- It is the country's first dedicated online platform designed to document and disseminate tribal knowledge.
- At present, TribeX offers 20 free certificate courses, with plans to expand the catalogue to more than 100 courses in the future. In collaboration with Sampurnanand Sanskrit University, Varanasi, the platform will also offer UGC-recognised postgraduate hybrid diploma programmes.
- The initiative will strengthen Tribal Research Institutes (TRIs) and help connect the younger generation with India's tribal heritage and traditional knowledge systems.

Jaipur Ranks Sixth in Time Out's 'World's Happiest Cities 2026'

- According to the 'World's Happiest Cities 2026' survey published by the renowned London-based media outlet Time Out, Jaipur, the capital of Rajasthan, has secured the 6th position globally. Jaipur is the only Indian city to feature in the Top 10 of the prestigious international rankings.
- The annual global survey received responses from more than 24,000 residents across the world.
- Bath (England) secured the top position in the rankings.
- The cities were evaluated on factors such as strong community spirit, cultural vibrancy, green spaces, friendly neighbourhoods, local cuisine, arts and culture, nightlife, and the ease of building social connections.
- Jaipur was praised for its rich historical heritage, vibrant culture, positive social environment, and successful blend of traditional charm with modern urban infrastructure.
- **Top 10 Happiest Cities in the World (2026):** Bath (England), Panama City (Panama), Guadalajara (Mexico), Medellín (Colombia), Kraków (Poland), Jaipur (India), Chicago (United States), Cape Town (South Africa), Shanghai (China), Gothenburg (Sweden)

Prime Minister Modi Receives Jakarta's Highest Civilian Honour

- On 7 July 2026, Indonesian President Prabowo Subianto conferred Indonesia's highest civilian honour, 'Bintang Adipurna', upon Prime Minister Narendra Modi in Jakarta. After Pandit Jawaharlal Nehru, Prime Minister Modi became the second Indian Prime Minister to receive this prestigious award.
- The honour was bestowed in recognition of Prime Minister Modi's exceptional leadership and contribution to strengthening the strategic partnership, mutual trust, and bilateral relations between India and Indonesia. Accepting the award, Prime Minister Modi dedicated it to the 1.4 billion people of India, the enduring friendship between the two nations, and their centuries-old historical and cultural ties.
- During the visit, India and Indonesia also signed several Memoranda of Understanding (MoUs) covering key sectors such as defence, agriculture, critical minerals, and emerging technologies.

New Heads Appointed to Three Premier Police Institutions

- On 6 June 2026, the Government of India appointed new chiefs to three of the country's premier police institutions. The appointments were approved by the Appointments Committee of the Cabinet (ACC), chaired by Prime Minister Narendra Modi.
 - » **Alok Kumar Mittal – Bureau of Police Research and Development (BPR&D):** Alok Kumar

Mittal, a 1993-batch IPS officer of the Haryana cadre, has been appointed as the Director General (DG) of the Bureau of Police Research and Development (BPR&D). He will serve in the position until June 2029.

- » **Amit Garg – National Crime Records Bureau (NCRB):** Amit Garg, a 1993-batch IPS officer of the Andhra Pradesh cadre, has been appointed as the Director of the National Crime Records Bureau (NCRB) after being promoted to the rank of Director General.
- » **Sujit Pandey – Sardar Vallabhbhai Patel National Police Academy (SVPNPA):** Sujit Pandey, a 1994-batch IPS officer of the Uttar Pradesh cadre, has been appointed as the Director of the Sardar Vallabhbhai Patel National Police Academy (SVPNPA) in Hyderabad.
- These three institutions play a vital role in India's internal security architecture. BPR&D focuses on police modernization, NCRB manages crime data and analysis, while SVPNPA is responsible for the training of Indian Police Service (IPS) officers.

GI Tags Awarded to Products from Haryana, Himachal Pradesh, and West Bengal

- Recently, GI (Geographical Indication) tags were awarded to one traditional product from Haryana, eight from Himachal Pradesh, and three historic products from the Hooghly district of West Bengal. With this new recognition, the total number of registered GI products in Himachal Pradesh has risen to 17.
- The 'Sirsa Kinnow,' grown in Haryana's Sirsa district, has been officially granted the GI tag by the Geographical Indications Registry based in Chennai. With this, the Sirsa Kinnow has become the first fruit and specific agricultural product from Haryana to receive this prestigious recognition.
- Due to Sirsa's semi-arid climate and unique soil, the Kinnow grown here is sweeter, juicier, larger in size, and has a thinner rind compared to those from other regions. The Sirsa district alone accounts for over 70% of Haryana's total Kinnow production. This tag will provide international recognition to the Sirsa Kinnow, curb product imitation, and enable local farmers to secure better, premium prices for their fruit in the global market.
- **Eight newly recognized products from Himachal Pradesh:**
 - » **Agricultural products:** Spiti Sea-buckthorn (Chharma), Salooni White Maize, and Kinnauri Apple.
 - » **Food item:** Mandi's famous 'Sepu Badi'.
 - » **Handicrafts and art:** Chamba Metal Art, Sirmauri Loiya (traditional shawl/garment), Kinnauri Cap, and Kinnauri Jewellery.
- **Three newly recognized products from West Bengal (Hooghly district):**
 - » **Chandannagar's Jolbhara Sandesh:** A nearly 220-year-old Bengali sweet filled with aromatic syrup.
 - » **Janai's Monohara:** Another famous traditional sweet from Bengal.
 - » **Balagarh's traditional wooden boats (Dingi boats):** The unique art of boat-making has thrived for over 500 years in Balagarh, located on the banks of the Hooghly River. In India, GI tags are administered under the Geographical Indications of Goods (Registration and Protection) Act, 1999. Obtaining a GI tag ensures product authenticity in both international and domestic markets, curbs counterfeiting, and strengthens the economic status of local artisans and farmers.

International Booker Prize to be Renamed

- The Booker Prize Foundation has announced that, beginning in 2027, the International Booker Prize will officially be renamed the Bukhman International Booker Prize. The change follows a 10-year funding agreement (2027–2036) with the philanthropic organization Bukhman Philanthropies.
- The annual prize money has been doubled from £50,000 to £100,000 (approximately Rs.1.28 crore), making it one of the world's richest literary awards.
- Under the existing rules of the prize, the increased award amount will continue to be shared equally between the author and the translator, with £50,000 each. In addition, each of the six shortlisted books will receive £5,000.

RBI's New Integrated Ombudsman Scheme Comes into Effect

- The Reserve Bank of India's (RBI) revised Integrated Ombudsman Scheme came into force across the country on 1 July 2026. The primary objective of the new framework is to provide transparent, speedy, and completely free grievance redressal for financial consumers.
- Based on the principle of "One Nation, One Ombudsman," the scheme enables customers to lodge complaints from anywhere in the country. It covers all scheduled and commercial banks, Non-Banking Financial Companies (NBFCs), Prepaid Payment Instrument (PPI) issuers, and Credit Information Companies (CICs). Consumers can approach the Ombudsman in cases involving deficiency in financial services.
- The revised scheme has also enhanced the compensation limits. Consumers can now receive compensation of up to Rs.30 lakh for financial losses caused by service deficiencies and up to Rs.3 lakh for mental harassment, loss of time, and related expenses.
- The scheme further strengthens India's financial grievance redressal mechanism through a fully digital and online complaint system. Consumers can file complaints through the RBI Complaint Management System (CMS) Portal.

Ravi Agrawal Reappointed as CBDT Chairman

- The Appointments Committee of the Cabinet (ACC) has reappointed Ravi Agrawal as the Chairman of the Central Board of Direct Taxes (CBDT). His new tenure came into effect on 1 July 2026 and has been extended for a period of six months.
- A 1988-batch Indian Revenue Service (IRS) officer, Ravi Agrawal was scheduled to retire on 30 June 2026. However, the Government has granted him a contractual extension to continue in office.
- He was first appointed as the CBDT Chairman in June 2024, succeeding Nitin Gupta. His tenure was subsequently extended by one year in June 2025.
- The CBDT is India's apex body responsible for formulating and administering direct tax policies. The extension of Ravi Agrawal's tenure is intended to ensure continuity in tax administration and facilitate the smooth implementation of ongoing tax and revenue reforms.

MCQs Based on Current Affairs

1. With reference to the use of Oxytocin in Caesarean Deliveries, consider the following statements:

1. Oxytocin is synthesized in the hypothalamus and released from the posterior pituitary gland.
2. Women undergoing Caesarean section often require synthetic oxytocin because the natural hormonal surge associated with labour may be inadequate.
3. Oxytocin is administered after delivery during a C-section primarily to prevent postpartum haemorrhage by promoting uterine contraction.

Which of the statements given above are correct?

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

2. With reference to the Europe Heatwave Crisis 2026, consider the following statements:

1. An Omega Block is a meteorological phenomenon in which a high-pressure system is trapped between two low-pressure systems, leading to persistent heatwave conditions.
2. The high-pressure system associated with an Omega Block promotes cloud formation and rainfall, thereby moderating temperatures.
3. Europe is warming at nearly twice the global average, partly due to Arctic amplification.
4. Urban Heat Island Effect contributes to higher temperatures in cities by increasing heat absorption and retention.

Which of the statements given above are correct?

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

3. With reference to the PM Family Care Tracker, consider the following statements:

1. It is an AI-enabled integrated governance platform for maternal and child welfare.
2. It integrates civil registration, health, education, and social welfare databases.
3. Each child is assigned a unique digital identity for tracking up to 18 years of age.

Which of the statements given above are correct?

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

4. With reference to Project Cheetah, consider the following statements:

1. It is the world's first intercontinental translocation of a large wild carnivore.
2. The project is implemented by the National Tiger Conservation Authority (NTCA) in collaboration with the Wildlife Institute of India (WII) and State Forest Departments.
3. The cheetahs introduced under the project have been sourced only from Namibia.
4. The project is implemented under the Ministry of Environment, Forest and Climate Change (MoEFCC) as part of Project Tiger.

Which of the statements given above are correct?

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

5. With reference to temple governance in India, consider the following statements:

1. Article 25(2) of the Constitution empowers the State to regulate the secular and economic activities associated with religious institutions.
2. The constitutional basis for state involvement in temple administration lies in the power to regulate secular aspects of religious practice rather than essential religious rituals.
3. The Religious Endowments Act, 1863, and the Madras Hindu Religious Endowments Act, 1925, contributed to the evolution of state oversight of temple administration.

Which of the statements given above is/are correct?

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

6. With reference to the Upper Yamuna River Board (UYRB) and the 1994 Upper Yamuna Agreement, consider the following statements:

1. The Upper Yamuna River Board (UYRB) was established to regulate water allocation, monitor river flows, and coordinate among the basin states.
2. Uttarakhand became a stakeholder in the Upper Yamuna Basin after its creation in 2000.
3. The 1994 Agreement allocated 10.4% of the utilisable Yamuna waters to Rajasthan.
4. The Upper Yamuna River Board is a constitutional body established under Article 262 of the Constitution.

Which of the statements given above are correct?

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

7. With reference to the constitutional and legal framework governing inter-State river water management in India, consider the following statements:

1. Article 262 empowers Parliament to provide for the adjudication of disputes relating to inter-State rivers.
2. The Inter-State River Water Disputes Act, 1956, was enacted under the provisions of Article 262.
3. Entry 17 of the State List gives states exclusive authority over all rivers, including inter-State rivers, without any role for the Union.
4. Entry 56 of the Union List empowers Parliament to regulate and develop inter-State rivers in the public interest.

Which of the statements given above are correct?

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

8. With reference to the Delhi EV Policy 2026, consider the following statements:

1. No new petrol motorcycles and scooters will be registered in Delhi after 31 March 2028.
2. Registration of new CNG auto-rickshaws will cease after December 2026.
3. From April 2028, all newly registered two-wheelers, three-wheelers, and private four-wheelers must necessarily be Battery Electric Vehicles (BEVs).

4. The policy provides scrappage incentives for old BS-IV and older vehicles.

Which of the statements given above are correct?

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

9. With reference to the Civil Registration System (CRS) Report 2024, consider the following statements:

1. The Civil Registration System (CRS) is governed by the Registration of Births and Deaths Act, 1969.
2. The Registrar General of India (RGI) functions under the Ministry of Health and Family Welfare.
3. The CRS provides continuous, compulsory, and universal registration of births, deaths, and stillbirths.
4. According to the CRS Report 2024, more than 99% of both births and deaths were registered in India.

Which of the statements given above are correct?

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

10. Consider the following statements regarding the Sex Ratio at Birth (SRB) as reported in the Civil Registration System (CRS) Report 2024:

1. The Sex Ratio at Birth (SRB) is the number of female live births per 1,000 male live births.
2. India's Sex Ratio at Birth in 2024 was 917 females per 1,000 males.
3. A Sex Ratio at Birth close to 950 females per 1,000 males is generally considered the natural biological range.
4. Nagaland recorded the highest Sex Ratio at Birth among all States and Union Territories in 2024.

How many of the above statements are correct?

- A: Only one
 B: Only two
 C: Only three
 D: all four

11. With reference to the Viksit Bharat – Guarantee for Rozgar and Aajeevika Mission (Gramin) [VB-G RAM G] Act, 2025, consider the

following statements:

1. The Act replaces the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) across India.
2. It guarantees 125 days of wage employment to every rural individual above 18 years of age.
3. The Act mandates wage payment within 15 days, with compensation payable for delays.
4. Gram Panchayats prepare Viksit Gram Panchayat Plans (VGPPs) through Gram Sabha participation.

Which of the statements given above are correct?

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

12. With reference to the Reserve Bank of India's Financial Stability Report (FSR), consider the following statements:

1. The Financial Stability Report (FSR) is a biannual publication of the Reserve Bank of India.
2. It has been published since 2010 and serves as an early-warning system for identifying systemic risks in the financial sector.
3. The Financial Stability and Development Council (FSDC) is a statutory body chaired by the RBI Governor.
4. The FSR is prepared based on inputs from the FSDC Subcommittee.

Which of the statements given above are correct?

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

13. With reference to the outcomes of the 16th India-Japan Annual Summit (2026), consider the following statements:

1. The summit adopted a shared vision titled "Strategic Convergence and Trust for Shared Growth, Prosperity and Resilience."
2. India and Japan launched an AI Strategic Dialogue and agreed to cooperate in quantum technologies and the LUPEX space mission.
3. The India-Japan Joint Declaration on Economic Security Cooperation focuses on strengthening resilient supply chains for

semiconductors and critical minerals.

4. The summit announced India's decision to join the Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

Which of the statements given above are correct?

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

14. Consider the following statements regarding India-Japan relations:

1. The Special Strategic and Global Partnership between India and Japan was established in 2014.
2. JIMEX is a bilateral naval exercise between India and Japan, whereas Dharma Guardian is a joint army exercise.
3. Japan is a major partner in the Mumbai-Ahmedabad High-Speed Rail Project.
4. The concept of a Free and Open Indo-Pacific (FOIP) seeks to promote a rules-based maritime order, freedom of navigation, and regional connectivity.

Which of the statements given above are correct?

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

15. With reference to the recent amendment bringing emerging therapies under the Centrally Licensed Approving Authority (CLAA) framework, consider the following statements:

1. The CLAA functions under the provisions of the Drugs and Cosmetics Act, 1940 and the Drugs Rules, 1945.
2. The recent amendment brings stem cell-derived products, gene therapeutic products, and xenografts under the CLAA framework.
3. The CLAA provides regulatory oversight exclusively through the Central Drugs Standard Control Organisation (CDSCO), without any role for State Licensing Authorities.

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 Employees' Provident Fund (EPF) Scheme, 2026, consider the following statements:

1. The EPF Scheme, 2026 has been framed under the Code on Social Security, 2020.
2. Existing EPF subscribers under the Employees' Provident Funds Scheme, 1952 are required to register afresh under the new scheme.
3. The mandatory EPF contribution continues to be 12% of wages each by the employer and the employee for most establishments.
4. The principal employer is responsible for depositing EPF contributions even when workers are employed through contractors who are not independently registered with EPFO.

Which of the statements given above are correct?

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

17. With reference to water security in India, consider the following statements:

1. Water security refers only to ensuring an adequate supply of water for agriculture and domestic use.
2. India possesses about 4% of the world's freshwater resources while supporting nearly 18% of the global population.
3. Per capita annual water availability below 1,000 cubic metres is generally regarded as an indicator of severe water scarcity.
4. Achieving water security requires efficient water management, conservation, reuse, recycling, and equitable allocation of water resources.

Which of the statements given above are correct?

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

18. With reference to the National Statistics Office (NSO) report "Labour Market Dynamics in Million-plus Cities" (PLFS 2025), consider the following statements:

1. Women employed in India's million-plus cities have a higher share of regular salaried employment than women in urban India as a whole.
2. The Worker Population Ratio (WPR) measures the proportion of employed as well as unemployed persons actively seeking work in the total population.
3. Regular salaried employment constitutes a higher share of total employment in million-plus cities than in urban 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

19. With reference to the Global Passport Index (GPI) 2026, consider the following statements:

1. The Global Passport Index ranks passports using only visa-free and visa-on-arrival travel access.
2. The index assigns the highest weightage to the Enhanced Mobility component.
3. The Investment Index and Quality of Living Index carry equal weightage in the overall ranking.

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

20. With reference to Pandavani, consider the following statements:

1. Pandavani is a traditional folk theatre and oral storytelling tradition that originated primarily in Chhattisgarh.
2. It narrates episodes from the Ramayana, with a particular emphasis on Lord Rama.
3. The performer typically uses a tambura (ektara) as both a musical instrument and a symbolic prop during the performance.
4. Improvisation and interaction with the audience are important features of a Pandavani performance.

Which of the statements given above are correct?

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

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

21. With reference to the Credit-to-Deposit Ratio (CD Ratio) and Asset-Liability Management in banks, consider the following statements:

1. A higher Credit-to-Deposit Ratio indicates that banks are using a larger proportion of deposits for lending.
2. A persistently high Credit-to-Deposit Ratio may reduce the liquidity cushion available with banks.
3. An Asset-Liability Mismatch arises when banks finance long-term loans using short-term deposits.

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

22. Which of the following factors have contributed to the slowdown in CASA (Current Account and Savings Account) deposit growth in India?

1. Increasing household investments in equity markets, mutual funds, and Exchange Traded Funds (ETFs).
2. Rapid digitisation through UPI and online investment platforms.
3. Higher interest rates offered on Fixed Deposits compared to savings accounts.
4. Mandatory reduction in savings account balances prescribed by the Reserve Bank of India.

Select the correct answer using the code below:

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

23. With reference to the UDISE+ Report 2025–26, consider the following statements:

1. The Pupil-Teacher Ratio (PTR) at all stages of schooling is below the NEP 2020 benchmark of 30:1.
2. The Foundational Stage under NEP 2020 consists of 5 years of schooling.
3. The Gross Enrolment Ratio (GER) at the secondary level declined between 2022–23

and 2025–26.

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

24. Which of the following were identified as challenges in the UDISE+ Report 2025–26?

1. Secondary-level dropout due to socio-economic barriers.
2. Only about 30% of schools have rainwater harvesting systems.
3. Around one lakh schools continue to function with only one teacher.
4. Less than half of schools have access to drinking water.

Select the correct answer using the code below:

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

25. With reference to the Gaganyaan Mission, consider the following statements:

1. The mission aims to send three astronauts to Low Earth Orbit (LEO) at an altitude of about 400 km for a mission lasting up to seven days.
2. The mission will be launched using the Human-Rated LVM3 launch vehicle.
3. Before the crewed mission, ISRO plans to conduct uncrewed flights, including one carrying the humanoid robot Vyommitra.
4. The Crew Escape System is designed primarily to provide propulsion for orbital manoeuvres after the spacecraft reaches orbit.

Which of the statements given above is/are correct?

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

26. With reference to White Gut Disease, recently seen in the news, consider the following statements:

1. White Gut Disease, also known as White Feces Disease, primarily affects the Pacific

White Shrimp (*Litopenaeus vannamei*).

2. It is caused exclusively by a single viral pathogen.

3. The disease is characterised by floating white faecal strings in shrimp ponds and is associated with poor gut health.

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

27. With reference to the Prambanan Temple in Indonesia, consider the following statements:

1. It is the largest Hindu temple complex in Indonesia and represents the pinnacle of Shaivite temple architecture in Southeast Asia.

2. The temple was built during the reign of the Sanjaya Dynasty around the 9th century CE.

3. The central shrine of the temple complex is dedicated to Lord Vishnu.

4. The temple walls depict reliefs from the Ramayana and Bhagavata Purana.

Which of the statements given above are correct?

A: 1, 2 and 3 only

B: 1, 3 and 4 only

C: 1, 2 and 4 only

D: 1, 2, 3 and 4

28. With reference to the Right to be Forgotten in India, consider the following statements:

1. The Right to be Forgotten is recognised as part of the right to privacy under Article 21 of the Constitution.

2. In *Laksh Vir Singh Yadav v. Union of India* (2026), the Delhi High Court held that RTBF can, in appropriate cases, operate against private digital platforms and search engines.

3. The Court ruled that all judicial records containing personal information must be permanently deleted upon an individual's request.

4. The Court introduced a Structured Proportionality Test to balance privacy with open justice and public interest.

Which of the statements given above are correct?

A: 1, 2 and 3 only

B: 1, 3 and 4 only

C: 1, 2 and 4 only

D: 1, 2, 3 and 4

29. Which of the following initiatives were launched or operationalised during the 3rd India–Australia Annual Leaders' Summit (2026)?

1. Dedicated Critical Minerals Corridor

2. Australia–India Partnership on Cyber, Critical Technologies and Supply Chains (AI-PACTS)

3. Rooftop Solar Training Academy in Gujarat

4. International Solar Alliance Secretariat

Select the correct answer using the code below:

A: 1, 2 and 3 only

B: 1, 3 and 4 only

C: 1, 2 and 4 only

D: 1, 2, 3 and 4

30. Consider the following statements regarding the Compensatory Afforestation Fund (CAF) Act and CAMPA:

1. The Compensatory Afforestation Fund Management and Planning Authority (CAMPA) was initially constituted by an Act of Parliament in 2002.

2. Under the provisions of the CAF Act, 90% of the collected funds are transferred to the State CAMPA, while 10% is retained by the National CAMPA.

3. CAMPA funds are generated solely through the Net Present Value (NPV) of forests.

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

31. With reference to the recent initiatives and schemes approved during the 7th Governing Body Meeting of National CAMPA, consider the following:

1. MISHTI (Mangrove Initiative for Shoreline Habitats and Tangible Incomes): Its three-year extension was approved along with a new scheme for landscape restoration.

2. Aastha Van Sanrakshan Yojana: A newly approved scheme specifically aimed at the conservation of nearly 15,000 sacred groves across the country.

3. Project Snow Leopard Phase-II: Approved to continue conservation efforts and includes conducting the second nationwide population estimation for snow leopards.

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

32. Consider the following statements about the Astra Mk-1 Missile:

1. It is India's first indigenously developed Beyond-Visual-Range Air-to-Air Missile (BVRAAM).
2. The missile has an operational range of 200–240 km.
3. It has been designed and developed by the Defence Research and Development Organisation (DRDO).
4. Indonesia has become its first international export customer.

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

33. With reference to Beyond-Visual-Range Air-to-Air Missiles (BVRAAMs), consider the following statements:

1. BVRAAMs are primarily designed to engage enemy aircraft within the pilot's visual range of fewer than 20 nautical miles (37 km).
2. They provide pilots with "first-shot capability" and greatly enhance overall pilot survivability.
3. The Astra Mk-3 (also known as Gandiva) under development utilizes Solid Fuel Ducted Ramjet (SFDR) technology.

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

34. Consider the following statements about the Monetary Policy Committee (MPC) of India:

1. It is a statutory six-member body established under the amended Reserve Bank of India

Act, 1934.

2. Three of its members represent the RBI, while the remaining three are external members appointed by the Central Government.
3. The external members of the MPC serve a four-year term and are eligible for immediate reappointment.
4. The MPC primarily follows an inflation-targeting framework focusing on the Wholesale Price Index (WPI).

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

35. With reference to India's extradition framework, consider the following statements:

1. India's extradition of criminals from the US is governed by the 1997 Extradition Treaty.
 2. The principle of dual criminality applies, meaning the offense must be recognized as a crime and punishable in both India and the United States.
 3. Once a court approves extradition, the final decision to surrender the fugitive rests with the respective national governments.
- 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

36. Consider the following statements regarding the Ken-Betwa Link Project (KBLP):

1. It is India's first major river interlinking project under the National Perspective Plan.
 2. The project proposes to transfer surplus water from the Ken River to the Betwa River, both of which are tributaries of the Ganga.
 3. The construction of the Daudhan Dam will cause the submergence of a significant portion of the Panna Tiger Reserve.
- 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

37. Consider the following statements regarding the recently adopted India-New Zealand Strategic Partnership Roadmap 2030:

1. Both countries have agreed to double bilateral trade in goods and services by the year 2030.
2. Under this agreement, New Zealand has been formally included in the Indo-Pacific Oceans Initiative.
3. New Zealand has announced an investment of US\$ 20 billion in India's technology and infrastructure sectors.

Which of the above statements is/are correct?

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

38. Consider the following statements regarding the 'Trial in Absentia' provision under Section 356 of the BNSS, 2023:

1. It is applicable to all cognizable and non-bailable offences.
2. The trial can commence immediately after the accused is declared a Proclaimed Offender.
3. The court is mandated to appoint a State-funded Defence Counsel if the absconding accused lacks legal representation.

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

39. Consider the following statements regarding the herbicide Paraquat:

1. Paraquat dichloride is a systemic herbicide that travels through the vascular system of the plant.
 2. There is currently no known medical antidote for paraquat poisoning.
 3. It destroys plant tissues by generating free radicals that interrupt photosynthesis.
- 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

40. With reference to the regulatory framework for agrochemicals in India, consider the following statements:

1. Under the existing Insecticides Act, 1968, state governments have the statutory power to completely and permanently ban any hazardous pesticide across their territories.
2. All herbicides marketed in India must be registered with the Central Insecticides Board and Registration Committee (CIB&RC).
3. The proposed Draft Pesticides Management Bill (PMB), 2025 seeks to replace the Insecticides Act, 1968.

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

41. With reference to the recently enforced India-U.K. Comprehensive Economic and Trade Agreement, consider the following statements:

1. The United Kingdom will immediately eliminate tariffs on nearly all of India's exports, covering approximately 97% of the trade value.
2. It establishes India's first dedicated gender chapter in an FTA to support women entrepreneurs.
3. The agreement completely eliminates India's tariffs across all sectors, including sensitive Make in India initiatives.
4. It is accompanied by a Double Contribution Convention (DCC) to exempt Indian workers from U.K. social security payments for a specified period.

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

42. Consider the following statements about the Index of Services Production (ISP):

1. It is developed by the Ministry of Statistics and Programme Implementation (MoSPI) to cover both formal and informal services sectors.
2. It has a base year of 2024–25 and acts as a

high-frequency monthly indicator.

3. It was introduced to address the measurement gap since the existing Index of Industrial Production (IIP) covers only industrial activities.

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

43. Consider the following statements regarding the Global Immunisation System and the recent WHO/UNICEF report:

1. The Immunisation Agenda 2030 (IA2030) is a global strategy aimed solely at the eradication of polio and measles.
2. "Zero-dose children" are defined as infants who have received the first dose of the DTP vaccine but missed all subsequent doses.
3. According to recent findings, global measles vaccination coverage remains inadequate to prevent outbreaks, requiring at least 95% coverage.

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

44. Consider the following statements regarding the recently approved Semicon Mission 2.0:

1. It is a completely new initiative succeeding the earlier Rs 76,000 crore allocation.
 2. The mission provides incentives only for finished semiconductor chip manufacturing, excluding raw materials and gases.
 3. The newly approved outlay is expected to attract four times its value in investments.
- 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

45. Consider the following statements about the newly approved National Investment Policy for Urea (NIPU-2026):

1. It aims to completely ban the import of urea into the country by the end of the policy period.
2. The policy promotes the establishment of gas-based urea manufacturing plants.
3. It features a separation of fixed and variable costs and guarantees a targeted Return on Equity (RoE).

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

46. Consider the following statements regarding the working mechanism of India's first hydrogen-powered train, the NaMo Green Rail:

1. The train generates electricity onboard through a chemical reaction between hydrogen and atmospheric oxygen.
2. The only by-product released during this power generation process is oxygen and water vapour.
3. It utilizes a propulsion system that solely relies on hydrogen fuel cells without requiring any batteries.

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

47. With reference to the Codex Alimentarius Commission (CAC) and its role in global trade, consider the following statements:

1. Codex standards are automatically binding on all World Trade Organization (WTO) member countries without requiring domestic legal adoption.
2. Under the WTO Agreement on Sanitary and Phytosanitary (SPS) Measures, Codex standards serve as the internationally recognized benchmark for food safety.
3. If Indian agricultural exports comply with Codex standards, importing countries cannot reject consignments as "unsafe" without valid scientific evidence.

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. With reference to the maiden mission of Vikram-1, Mission "Aagaman", consider the following statements:

1. The rocket was launched from the Satish Dhawan Space Centre (SDSC), Sriharikota.
2. It successfully placed technology demonstration satellites into the Low Earth Orbit (LEO).
3. The mission's regulatory clearances and launch assistance were facilitated by the Indian National Space Promotion and Authorisation Centre (IN-SPACe).

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

49. Consider the following statements regarding the maiden mission of Vikram-1, "Mission Aagaman":

1. This rocket was launched from the Satish Dhawan Space Centre (SDSC), Sriharikota.
2. It successfully placed technology

demonstration satellites into Low Earth Orbit.

3. The necessary regulatory approvals and launch assistance for this mission were provided by the Indian National Space Promotion and Authorization Centre (IN-SPACe).

Which of the above statements is/are correct?

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

50. Consider the following statements regarding the MH-60R Seahawk Helicopter:

1. It is an indigenous multi-role naval helicopter developed by Hindustan Aeronautics Limited (HAL).
2. The helicopter is primarily designed for Anti-Submarine Warfare (ASW) and Anti-Surface Warfare (ASuW).
3. It can be armed with Mk 54 lightweight torpedoes and AGM-114 Hellfire missiles.

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

ANSWER

1	D
2	A
3	D
4	A
5	D
6	A
7	A
8	A
9	B
10	C

11	B
12	B
13	A
14	D
15	A
16	B
17	C
18	B
19	C
20	B

21	D
22	A
23	A
24	A
25	A
26	B
27	C
28	C
29	A
30	B

31	D
32	B
33	C
34	A
35	D
36	B
37	B
38	B
39	C
40	C

41	C
42	C
43	B
44	B
45	C
46	A
47	C
48	D
49	D
50	C



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