KERALA STATE CIVIL SERVICE ACADEMY

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WEEKLY CURRENT AFFAIRS MAGAZINE

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Monthly Current Affairs Magazine

RESIGNATION OF VICE PRESIDENT

Vice President Jagdeep Dhankhar resigned on July 21, 2025, citing health reasons. His resignation, effective immediately under Article 67(a) of the Constitution.

Constitutional Process & Impact

- Until a new Vice President is elected, Deputy Chairperson Harivansh Narayan Singh will preside over the Rajya Sabha under Article 91.
- A new Vice President must be elected within 60 days (by September 19, 2025).
- The election will follow the proportional representation system with a single transferable vote, involving an electoral college of 788 MPs.

Vice President of India

Constitutional Position:

- The Vice President of India is the second-highest constitutional office in the country.
- Defined under Articles 63 to 71 of the Constitution.

Key Functions:

- Ex officio Chairperson of the Rajya Sabha (Council of States).
- Acts as President of India in case of vacancy (due to death, resignation, removal, or absence) until a new President is elected (for a maximum of 6 months).
- Does not perform executive functions unless acting as President.

Election Process:

- Elected by an electoral college consisting of members of both Lok Sabha and Rajya Sabha (including nominated members).
- Voting method: Proportional representation by means of a single transferable vote and secret ballot.
- No separate state-level representation (unlike Presidential election).

Eligibility Criteria:

- Must be an Indian citizen,
- At least 35 years old,
- Qualified to be a member of the Rajya Sabha,
- Must not hold any office of profit under the Government.

Term and Vacancy:

- Term: 5 years, but continues until successor takes office.
- Can resign (under Article 67) by writing to the President.
- In case of resignation or vacancy, Article 91 allows the Deputy Chairperson of Rajya Sabha to perform duties as presiding officer.

Notable Facts:

- The Vice President is not subordinate to the President but has a distinct role.
- India's first Vice President was Dr. S. Radhakrishnan.
- The Vice President can be removed by a resolution of the Rajya Sabha passed by an absolute majority and agreed to by the Lok Sabha.

BIO STIMULANTS, NOW UNDER AGRI MINISTRY'S SCRUTINY

What are Bio stimulants?

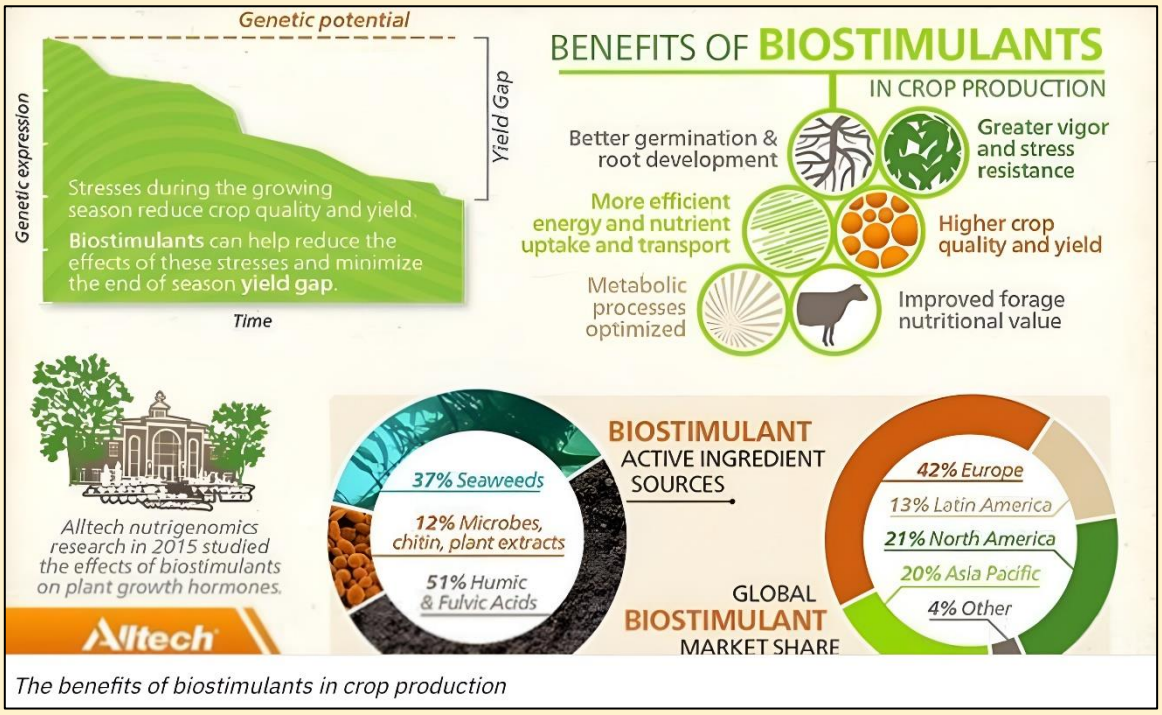
- Definition: Substances that stimulate physiological processes in plants to enhance nutrient uptake, yield, growth, and stress tolerance.
- Components: Derived from natural sources—botanical extracts, seaweed, vitamins, bio-chemicals.
- Exclusion: Not classified as pesticides or fertilizers under current law.

Why Under Scrutiny?

- Farmers complained retailers were bundling bio stimulants with subsidized fertilizers like urea and DAP.
- Concerns raised over ineffectiveness of many products.
- ~30,000 unchecked products existed until recently; now reduced to ~650 after stricter checks.

Legal Framework

- Previously unregulated, unlike fertilizers/pesticides.
- Regulated under:
  - Fertiliser Control Order (FCO), 1985 – amended in 2021 to include bio stimulants.
  - Essential Commodities Act, 1955 – allows periodic updates to FCO.
- 2021: Government created a 5-year Central Bio stimulant Committee for scientific assessment.



The benefits of biostimulants in crop production

Biofortification

- Definition: Process of increasing the nutritional value of food crops through agronomic practices, conventional plant breeding, or modern biotechnology.
- Example: Iron-rich pearl millet, zinc-rich wheat.
- Objective: Address hidden hunger (micronutrient deficiency).

Biofertilizers

- Definition: Microorganisms that fix nutrients (like nitrogen, phosphorus) in the soil and make them available to plants.
- Examples: Rhizobium (legumes), Azospirillum, Mycorrhiza.
- Benefit: Reduce chemical fertiliser dependency.

Precision Farming

- Definition: Use of technology and data analytics to deliver nutrients and water in precise amounts needed by crops.
- Tools: GPS, remote sensing, drones.
- Outcome: Efficient nutrient delivery, reduced wastage.

Nutrient Use Efficiency (NUE)

- Definition: Ratio of crop yield to the amount of nutrient applied.
- Goal: Increase yield with minimal nutrient loss.
- Enhanced Through: Balanced fertilization, slow-release fertilizers.

Integrated Nutrient Management (INM)

- Definition: Combined use of chemical fertilizers, organic manures, and biofertilizers to maintain soil fertility and productivity.
- Advantage: Sustainable nutrient supply.

Nanofertilizers

- Definition: Fertilizers developed using nanotechnology to enhance nutrient availability and uptake.
- Example: Nano Urea (by IFFCO).
- Pros: Lower doses, reduced environmental impact.

Foliar Nutrition

- Definition: Application of nutrients directly to plant leaves in liquid form.
- Use Case: Quick correction of micronutrient deficiencies (like Zn, Fe).

U.S. TO WITHDRAW FROM UNESCO

The U.S. will exit UNESCO by December 2026, citing ideological concerns, opposition to Palestine's membership, and alignment with its "America First" policy. This marks the third U.S. withdrawal (after 1984 and 2017), despite rejoining in 2023. The move may reduce U.S. influence in global education, culture, and tech governance. UNESCO has expressed regret but is prepared to continue without U.S. support.

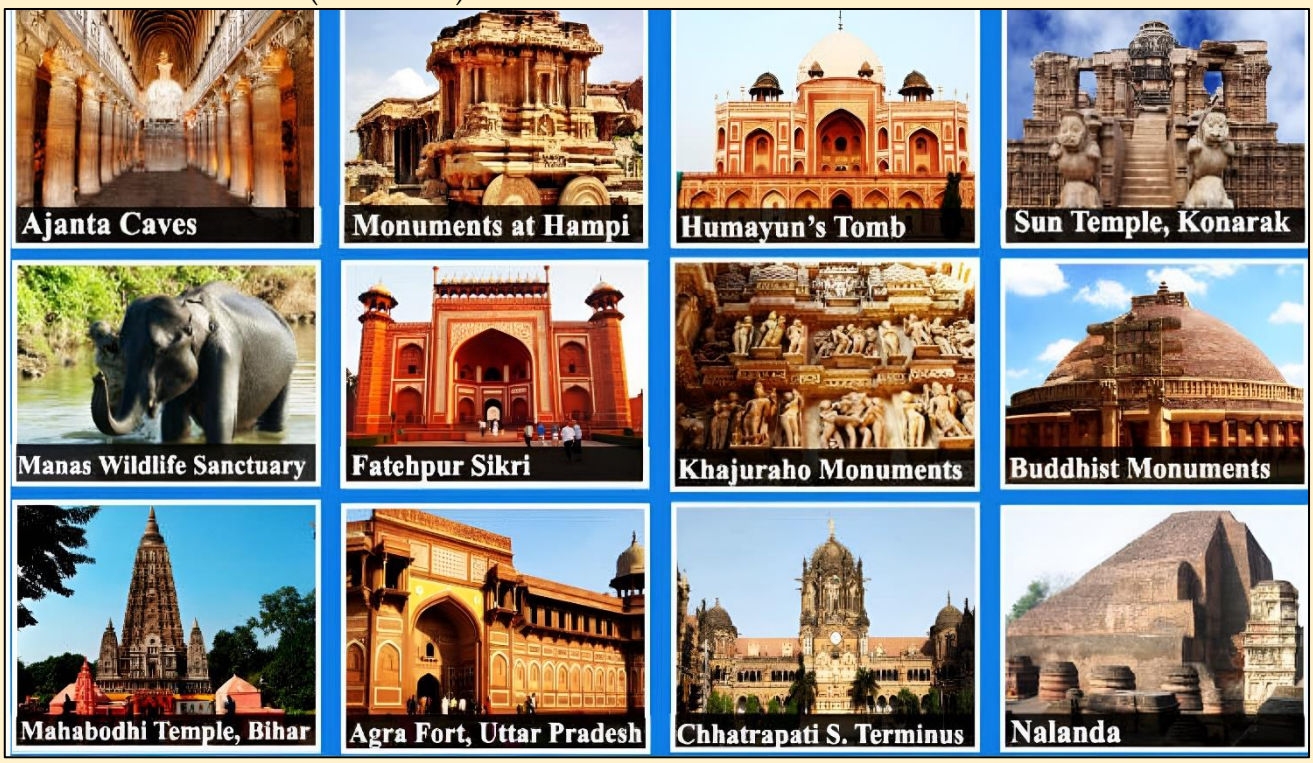
UNESCO (United Nations Educational, Scientific and Cultural Organization) is a specialized agency of the UN, founded in 1945. It aims to promote peace and sustainable development through international cooperation in education, science, culture, and communication.

Key Functions:

- Protects cultural heritage through the World Heritage Sites program
- Promotes education for all, including literacy and girls' education
- Supports scientific collaboration and freedom of expression
- Works on ethical AI, climate education, and preservation of intangible cultural heritage

Headquarters: Paris, France

Members: 194 countries (as of 2025).



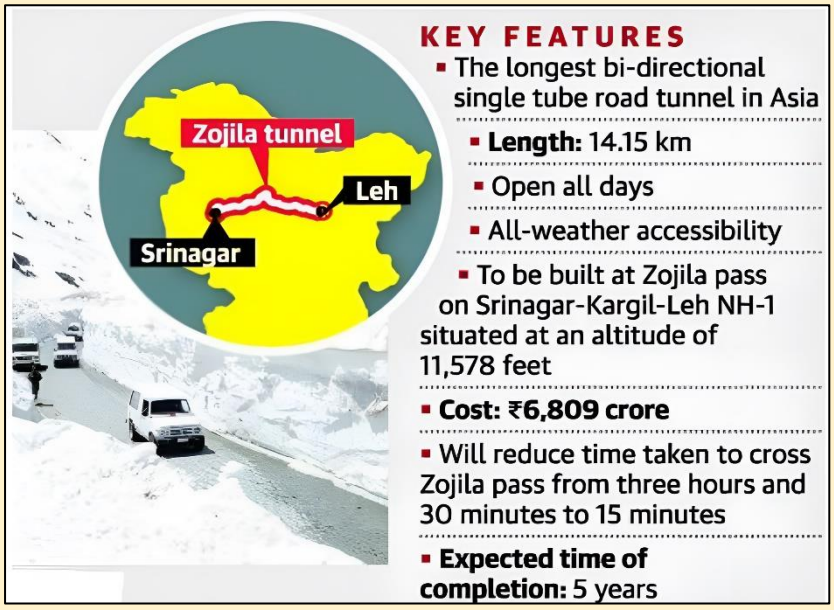
Key Reports by UNESCO:

- **Global Education Monitoring (GEM) Report**
  - Tracks progress on education targets under SDG 4.
  - Formerly known as the *Education for All Global Monitoring Report*.
- **State of the Education Report for India**
  - Focuses on India-specific themes like teacher education, vocational education, digital learning, etc.
- **World Trends in Freedom of Expression and Media Development**
  - Assesses global press freedom, journalist safety, and media viability.
- **Global Report on Culture for Sustainable Development**
  - Highlights the role of culture in achieving sustainable development.

- **UNESCO Science Report**
  - Published every 5 years.
  - Analyses trends in global science, research, and innovation.
- **Global Report on the Futures of Education**
  - Strategic outlook on education's role in shaping future societies.
- **World Heritage Outlook** *(in collaboration with IUCN)*
  - Evaluates the conservation status of UNESCO World Heritage Sites.
- **Internet Universality Indicators Report**
  - Measures internet development across countries based on rights, openness, accessibility, and multistakeholder participation.

SAIL POWERS ZOJILA TUNNEL WITH OVER 31,000 TONNES OF STEEL.

The Zojila Tunnel, set to be India's longest road tunnel and Asia's longest bi-directional tunnel, will span over 30 km at an altitude of 11,578 feet, connecting Srinagar to Leh via Kargil and Dras. It will provide crucial all-weather connectivity, vital for civilian and military logistics.



Zojila Tunnel Project

The Zojila Tunnel is an ambitious all-weather road tunnel project being constructed in the Union Territory of Ladakh, aimed at enhancing connectivity between Srinagar (Jammu & Kashmir) and Leh (Ladakh) via Dras and Kargil.

Key Features:

- Length: Over 30 km, it will be India's longest road tunnel and Asia's longest bi-directional tunnel once completed.
- Altitude: Located at 11,578 feet in the challenging terrain of the Western Himalayas.
- Route: Connects Baltal (near Sonamarg) in Jammu & Kashmir to Minamarg in Ladakh.

Significance:

- Ensures all-weather connectivity between Kashmir and Ladakh (Zojila Pass remains closed ~6 months due to snow).
- Boosts civilian and military logistics in a strategically sensitive region.
- Promotes economic development and tourism in remote Himalayan regions.

Construction & Timeline:

- Being executed by Megha Engineering & Infrastructures Ltd. (MEIL).
- Scheduled for completion by 2027.
- Over 31,000 tonnes of steel supplied by SAIL, showcasing public sector involvement.

Strategic and National Importance:

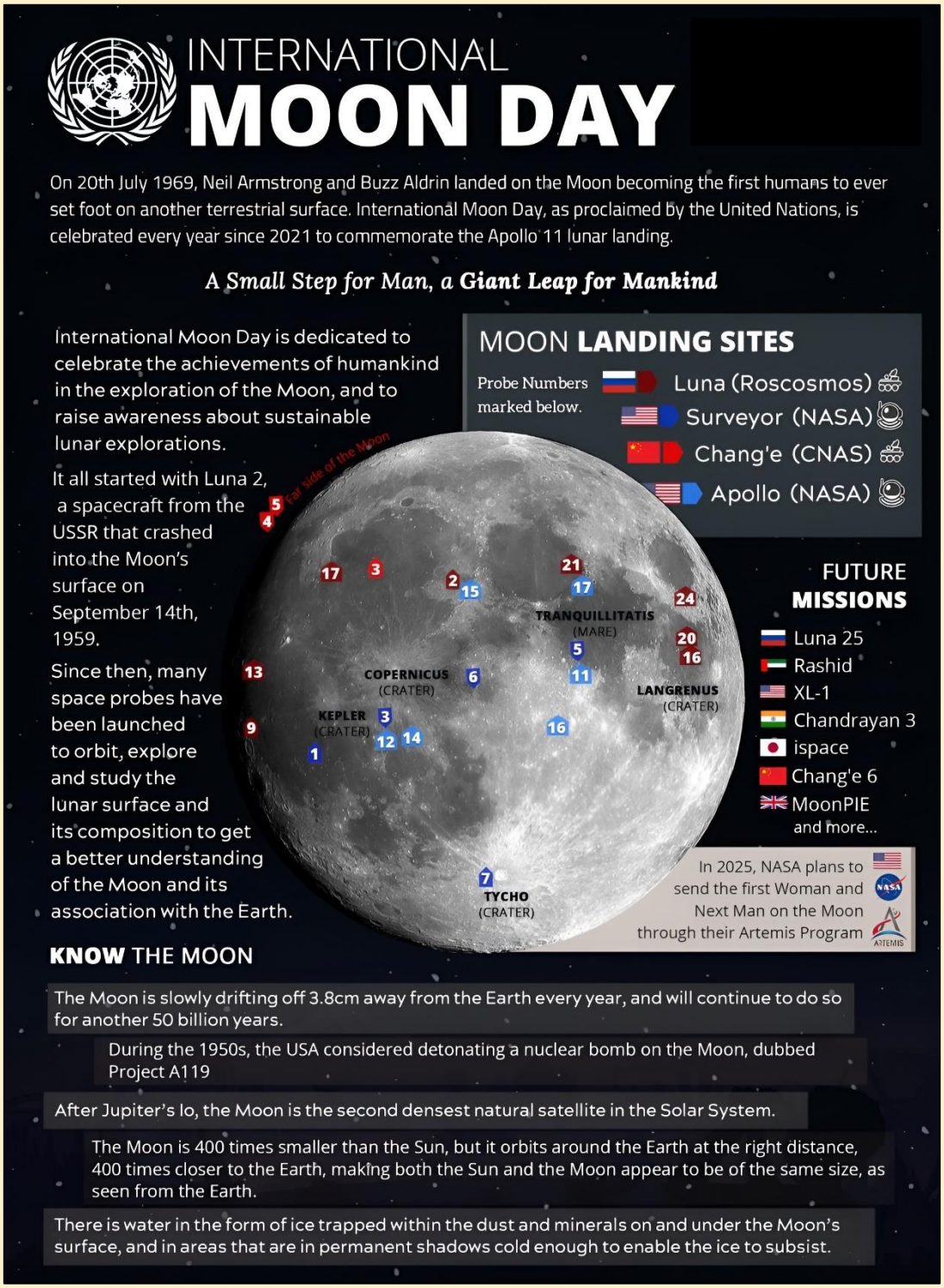
- Enhances border infrastructure.
- Critical for defense preparedness.
- Symbol of engineering excellence and nation-building in tough Himalayan terrain.

MOON DAY

Moon Day, observed every year on July 20, commemorates the first manned Moon landing during NASA's Apollo 11 mission in 1969.

Why It Matters:

- Marks a milestone in human space exploration and scientific achievement.
- Honors the courage and collaboration behind Apollo 11.
- Inspires ongoing and future missions like Artemis, Chandrayaan, and others.
- Encourages public interest in STEM and the spirit of discovery.



Some interesting facts on the Moon

The Moon is Earth's only natural satellite and the fifth-largest moon in the Solar System. It orbits Earth at an average distance of about 384,400 km and has a diameter of 3,474 km.

Key Features:

- Formation: Likely formed about 4.5 billion years ago, possibly from debris after a Mars-sized body collided with Earth (Giant Impact Hypothesis).
- Phases: The Moon goes through eight phases each month, from new moon to full moon, due to its position relative to Earth and the Sun.
- Tidal Influence: The Moon's gravitational pull causes ocean tides on Earth.
- No Atmosphere: It lacks a significant atmosphere, so temperatures fluctuate drastically and no weather occurs.
- Surface: Covered with craters, mountains, and basaltic plains (called *maria*) formed by ancient volcanic activity.

Scientific Facts:

- The Moon always shows the same face to Earth
  - Due to tidal locking, its rotation period equals its revolution period (~27.3 days).
- It's moving away from Earth
  - The Moon drifts 3.8 cm farther from Earth every year.
- Moon has weak gravity
  - It's about 1/6th of Earth's gravity, which affects human movement and structure building on its surface.
- No atmosphere or magnetic field
  - Thus, it can't protect from solar radiation or meteor impacts.
- It affects Earth's tides
  - Caused by its gravitational pull, crucial for marine life and coastal ecosystems.
- Largest relative to its planet
  - Though not the biggest moon, it is proportionally the largest in relation to its planet.
- Water ice discovered
  - Found in permanently shadowed craters near the Moon's poles—critical for future missions.

Space Missions and Exploration:

- First human landing: Apollo 11 (1969)
  - Neil Armstrong and Buzz Aldrin became the first humans to walk on the Moon.
- India's Chandrayaan-2 & 3
  - *Chandrayaan-3* made India the first country to land on the Moon's south pole (August 2023).
- NASA's Artemis Program
  - Aims to return humans to the Moon and build a sustainable lunar base.

Cultural & Other Facts:

- Used in calendars
  - Many cultures follow lunar calendars (e.g., Islamic, Hindu).
- Visible during the day
  - The Moon can often be seen in daylight due to its proximity and brightness.
- Blood Moon & Supermoon
  - Phenomena like lunar eclipses (Blood Moon) and closest approach to Earth (Supermoon) captivate skywatchers.

UNLAWFUL ACTIVITIES (PREVENTION) ACT (UAPA)

The Bombay High Court has upheld the constitutional validity of the Unlawful Activities (Prevention) Act (UAPA), dismissing petitions that challenged its legality in the Elgar Parishad case.

Key Legal Findings:

- Not a Preventive Detention Law: Despite using the term "prevention," UAPA is not classified as a preventive detention law.
- Date of Commencement: The Act came into force on 30 December 1967, the date it received Presidential assent, as per legal norms.
- Legislative Competence: Parliament has the constitutional authority to enact laws like UAPA under Article 22 and List I powers.
- On Amendments and Non-Notified Clauses: The court held that unless specific provisions are officially notified, original provisions continue to apply.
- Fundamental Rights Challenge: Allegations of violations of Articles 14, 19, and 21 were rejected, and the law was upheld as constitutional.

UAPA (Unlawful Activities (Prevention) Act), 1967

The Unlawful Activities (Prevention) Act (UAPA) is India's primary anti-terror law aimed at preventing activities that threaten the sovereignty, integrity, and security of the nation.

Key Features:

- Objective:
  To prevent unlawful activities and associations that threaten India's sovereignty and integrity.
- Scope:
  Covers acts of terrorism, support to terrorist organizations, and membership in or association with banned groups.
- Wide Powers to Government:
  Enables the central government to declare individuals and organizations as terrorists or unlawful.
- Stringent Bail Provisions:
  Accused under UAPA face reverse burden of proof, and getting bail is difficult due to strict conditions.
- Amendments:
  - 2004: Brought terrorism within UAPA after POTA was repealed.
  - 2019 Amendment: Allowed individuals (not just organizations) to be designated as terrorists.

Constitutional Standing:

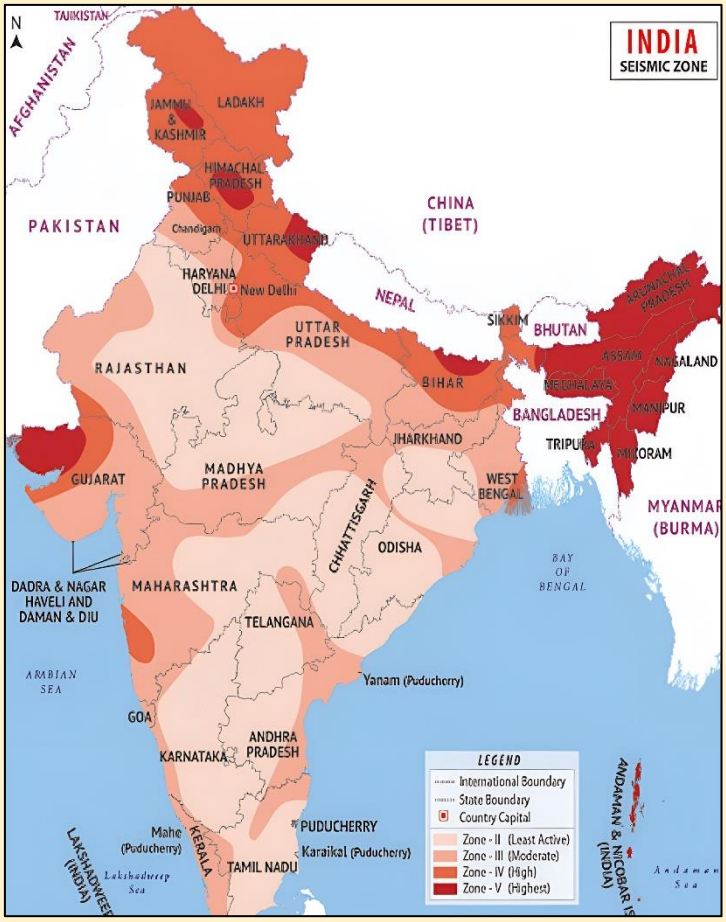
- Parliament has the legislative competence to enact UAPA under Entry 9 of List I (Union List) and Article 22 of the Constitution.
- In July 2025, the Bombay High Court upheld its constitutional validity, stating it is not a preventive detention law and aligns with the Constitution.

INDIA'S RECENT EARTHQUAKES

India's recent earthquakes, including the July 2025 Delhi quake, have triggered a call for a fundamental transformation in earthquake preparedness.

Key Elements of the New Approach:

- Modernized Building Codes: Strict implementation of revised seismic safety standards (e.g., IS 1893 and IS 4326) for all constructions, especially in high-risk zones.
- Retrofitting Old Infrastructure: Upgrading unsafe pre-2000 buildings, particularly critical infrastructure like hospitals and schools.
- Resilient Urban Planning: Integrating seismic zoning into city plans and enforcing land-use regulations to reduce risk.
- Enhanced Monitoring: Expanding India's seismic observatory network to improve real-time data, early warnings, and risk modeling.
- Technology Integration: Leveraging AI, IoT, and geospatial data for real-time alerts and resource planning.
- Public Awareness and Preparedness: Mass education campaigns and safety training to prepare citizens for earthquakes.



- Mainstreaming Risk Reduction: Embedding resilience into schools, local governance, and business continuity frameworks.
- Risk Financing Tools: Promoting insurance, disaster bonds, and incentives to support resilience investments.

Global and Cultural Context:

Inspired by the Sendai Framework and global best practices (e.g., Japan, Chile), India aims to embed resilience in institutions and public life. Experts emphasize a mindset revolution—where seismic safety becomes a routine civic and institutional priority, not just a crisis response.

Seismic Zones in India

India lies on the Alpine-Himalayan seismic belt, one of the most seismically active regions in the world. It is prone to earthquakes due to tectonic movements, particularly the collision between the Indian and Eurasian plates.

The Bureau of Indian Standards (BIS) has classified India into four seismic zones (Zone II to V) based on the frequency and intensity of past earthquakes.

Seismic Zonation Classification:

Zone	Seismic Risk Level	Zone Factor	Regions Covered
Zone V	Very High Risk	0.36	North-East India, parts of J&K, Himachal Pradesh, Uttarakhand, Rann of Kutch (Gujarat), Northern Bihar, Andaman-Nicobar Islands
Zone IV	High Risk	0.24	Delhi, Sikkim, Punjab, Haryana, parts of Bihar, Himachal Pradesh, J&K, West Bengal
Zone III	Moderate Risk	0.16	Kerala, Goa, Lakshadweep, Western Madhya Pradesh, Telangana, parts of Tamil Nadu and Karnataka
Zone II	Low Risk	0.10	Most of South India, Central India, Eastern Maharashtra, Odisha, Chhattisgarh

Note: Zone I was present in older classifications but has now been merged with Zone II.

TEST-FIRINGS OF MULTIPLE STRATEGIC MISSILES

India successfully conducted test-firings of multiple strategic missiles, showcasing its deterrence and operational readiness.

Key Missile Tests:

- **Akash Prime**
  - Test Location: Ladakh
  - Altitude: Operates at over 4,500 metres
  - Purpose: High-altitude air defense, tested after recent India-China tensions near the Line of Actual Control (LAC)
  - Variant: Upgraded Akash missile for the Indian Army
  - Part of: Operation Sindoor.

- **Prithvi-II and Agni-I**
  - Test Location: Integrated Test Range, Chandipur, Odisha
  - Capabilities:
    - Prithvi-II: ~350 km range, 500 kg payload
    - Agni-I: 700–900 km range, 1,000 kg payload
  - Type: Short-range, nuclear-capable ballistic missiles
  - Use: Part of India's strategic nuclear deterrent.

Akash Prime

Akash Prime is an indigenously developed upgraded version of the Akash surface-to-air missile system, designed and built by the Defence Research and Development Organisation (DRDO) for the Indian Army.

Key Features:

- Purpose: High-altitude air defence against aerial threats such as fighter aircraft, drones, and helicopters.
- Range: Short- to medium-range (similar to Akash: ~25–30 km).
- Altitude Capability: Specifically configured to operate at high altitudes above 4,500 meters, ideal for deployment in areas like Ladakh and the Line of Actual Control (LAC).
- Guidance: Equipped with improved accuracy, reliability, and low-temperature operability compared to the original Akash missile.
- Warhead: Can carry both conventional and nuclear warheads.
- Mobility: Can be launched from mobile platforms, increasing tactical flexibility.
- Recent Test: Successfully test-fired in Ladakh in July 2025 under Operation Sindoor.

Prithvi-II Missile

- Type: Short-range surface-to-surface ballistic missile
- Developed by: DRDO under the Integrated Guided Missile Development Programme (IGMDP)
- Range: Approximately 350 km
- Warhead Capacity: Up to 500 kg, can carry both conventional and nuclear warheads
- Guidance System: Advanced inertial navigation system
- Launch Platform: Mobile launchers
- Users: Operated by the Strategic Forces Command of the Indian Army
- Purpose: Tactical strike missile for battlefield use
- Recent Test: Successfully tested on 17 July 2025 from the Integrated Test Range, Odisha

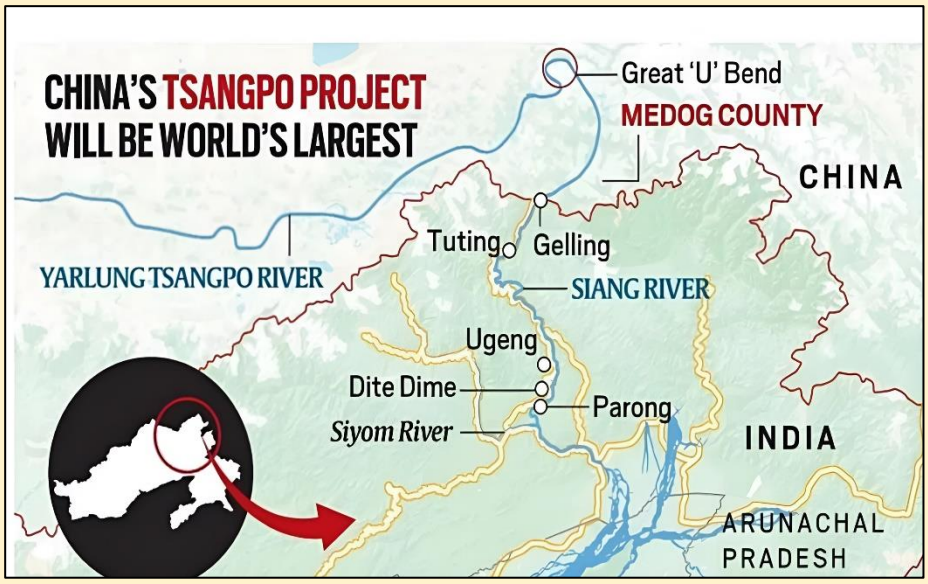
Agni-I Missile

- Type: Short-range nuclear-capable ballistic missile
- Developed by: DRDO
- Range: 700 to 900 km
- Warhead Capacity: Up to 1,000 kg, capable of delivering nuclear payloads
- Guidance System: Sophisticated navigation and control systems with high accuracy
- Launch Platform: Road/rail mobile launchers
- Users: Strategic Forces Command
- Role: Part of India's nuclear deterrence and second-strike capability
- Recent Test: Also tested on 17 July 2025 from Chandipur, Odisha along with Prithvi-II

WORLD'S LARGEST HYDROPOWER DAM

China has initiated construction of the world's largest hydropower dam on the eastern edge of the Tibetan Plateau. The project, costing over $170 billion, is set to become China's most ambitious hydropower venture since the Three Gorges Dam.

It aims to generate 300 billion kilowatt-hours annually, matching the electricity consumption of the United Kingdom in 2024.



The dam is located on the Yarlung Zangbo River, which flows into India and Bangladesh as the Brahmaputra. The project has sparked environmental and geopolitical concerns while also boosting Chinese markets.

Project Overview

The dam consists of five cascade hydropower stations. It exploits a 2,000-metre drop in the river across 50 kilometres. This drop offers immense potential to generate electricity. The project is expected to be operational by the 2030s.

It will supply power primarily to Tibet and other parts of China. The scale of investment is unprecedented, with an estimated cost of at least $170 billion.

Economic Impact and Market Response

The announcement triggered a positive reaction in Chinese financial markets. Stocks of construction and engineering firms surged sharply. Companies producing cement, explosives and tunnel equipment saw gains.

Analysts note that mature hydropower projects provide stable returns similar to bonds. The project is viewed as a major economic stimulus amid signs of slowing growth in China. It is estimated to add up to 120 billion yuan to GDP in a peak construction year.

Environmental and Ecological Concerns

Chinese authorities have emphasised ecological conservation during construction. However, NGOs warn of irreversible damage to the Tibetan Plateau's rich biodiversity. The area is one of the world's most diverse environments. The dam's impact on river flow and ecosystems downstream remains uncertain. The project site lies in a seismically active zone, raising safety concerns.

Geopolitical and Downstream Issues

The Yarlung Zangbo River becomes the Brahmaputra in India and Bangladesh. These countries have expressed apprehension about water security. State of Indias like Arunachal Pradesh fear reduced river flow could affect 80 per cent of water passing through.

Flooding risks are also noted for Assam and other downstream regions. The dam's proximity to international borders adds to geopolitical tensions.

Social and Employment Dimensions

The Three Gorges Dam previously created nearly a million jobs but displaced a similar number of people. The current project's employment impact is not yet disclosed. Displacement of local communities remains a concern. The Chinese government has not provided data on possible relocations or resettlements.

INDIA'S FIRST CENTRE OF EXCELLENCE FOR HORNBILL CONSERVATION

The Tamil Nadu government has initiated India's first Centre of Excellence for Hornbill Conservation at the Anamalai Tiger Reserve (ATR) in Coimbatore district. This pioneering effort aims to protect hornbills, vital seed dispersers in tropical forests, threatened by habitat loss and climate change.

Funded with ₹1 crore under the Endangered Species Conservation Corpus Fund, the Centre will focus on research, habitat restoration, and community involvement to safeguard four hornbill species native to the Western Ghats.

Ecological Importance of Hornbills

Hornbills are crucial for forest regeneration. They disperse seeds of native trees, maintaining biodiversity and forest health. Known as farmers of the forest, these birds support the growth of species like fig and canarium trees. Their decline affects entire ecosystems and other wildlife dependent on forest habitats.

Fig. Tiger Reserves in India

Threats to Hornbill Populations

Hornbills face threats from deforestation, habitat fragmentation, and climate change. These factors reduce nesting sites and food availability. Fragmented forests isolate populations, increasing vulnerability. Climate shifts alter flowering and fruiting patterns, disrupting hornbill feeding and breeding cycles.

Role of Anamalai Tiger Reserve

ATR was chosen for its rich biodiversity and strong conservation record. It already protects tigers, elephants, lion-tailed macaques, and other endemic species. The reserve's existing infrastructure supports scientific research and monitoring. This makes it an ideal hub for hornbill conservation leadership.

Key Species Under Protection

The Centre will focus on four hornbill species found in the Western Ghats –

- Great Hornbill (Buceros bicornis)
- Malabar Grey Hornbill (Ocyceros griseus)
- Malabar Pied Hornbill (Anthracoceros coronatus)
- Indian Grey Hornbill (Ocyceros birostris)

Each species plays a distinct ecological role and requires targeted conservation strategies.

Conservation Activities and Research

The Centre will conduct habitat mapping, nest monitoring, and climate impact assessments. Restoration of degraded forests will involve planting native tree species that support hornbill diets. Scientific studies will enhance understanding of hornbill ecology and threats. Data will guide adaptive conservation measures.

Community Engagement and Capacity Building

Local communities will be involved through nest adoption programmes and sustainable livelihoods like seed collection. Scholarships for students aim to nurture future conservationists. Forest staff will receive training to improve protection efforts. Awareness campaigns and school field visits will encourage public support.

Collaborations and Expansion

The Tamil Nadu Forest Department will partner with national and international organisations such as the Salim Ali Centre for Ornithology and Natural History, Nature Conservation Foundation, Wildlife Institute of India, and the International Union for Conservation of Nature's Hornbill Specialist Group. Similar conservation initiatives will extend to Kalakkad Mundanthurai Tiger Reserve, Sathyamangalam Tiger Reserve, and parts of Kanyakumari district.

GRAVITATIONAL WAVES

Scientists have detected gravitational waves from the largest black hole merger observed so far.

These waves, first predicted by Einstein's General Theory of Relativity (1915), were only directly observed in 2015 with the help of LIGO (Laser Interferometer Gravitational-Wave Observatory).

Key Points:

- Gravitational waves are ripples in space-time caused by massive cosmic events like black hole mergers.
- The newly detected event involved black holes 100–150 times larger than the Sun, which challenges current theories as such sizes were not expected to exist.
- One of the black holes was spinning at extremely high speeds, nearing limits set by General Relativity.
- The event involved a merged black hole 225 times the Sun's mass, surpassing previous records.

Significance:

- This discovery could refine theories about black hole formation, star evolution, and universe composition.
- It highlights gaps in the current understanding of stellar evolution leading to black hole formation.

LIGO and Global Collaboration:

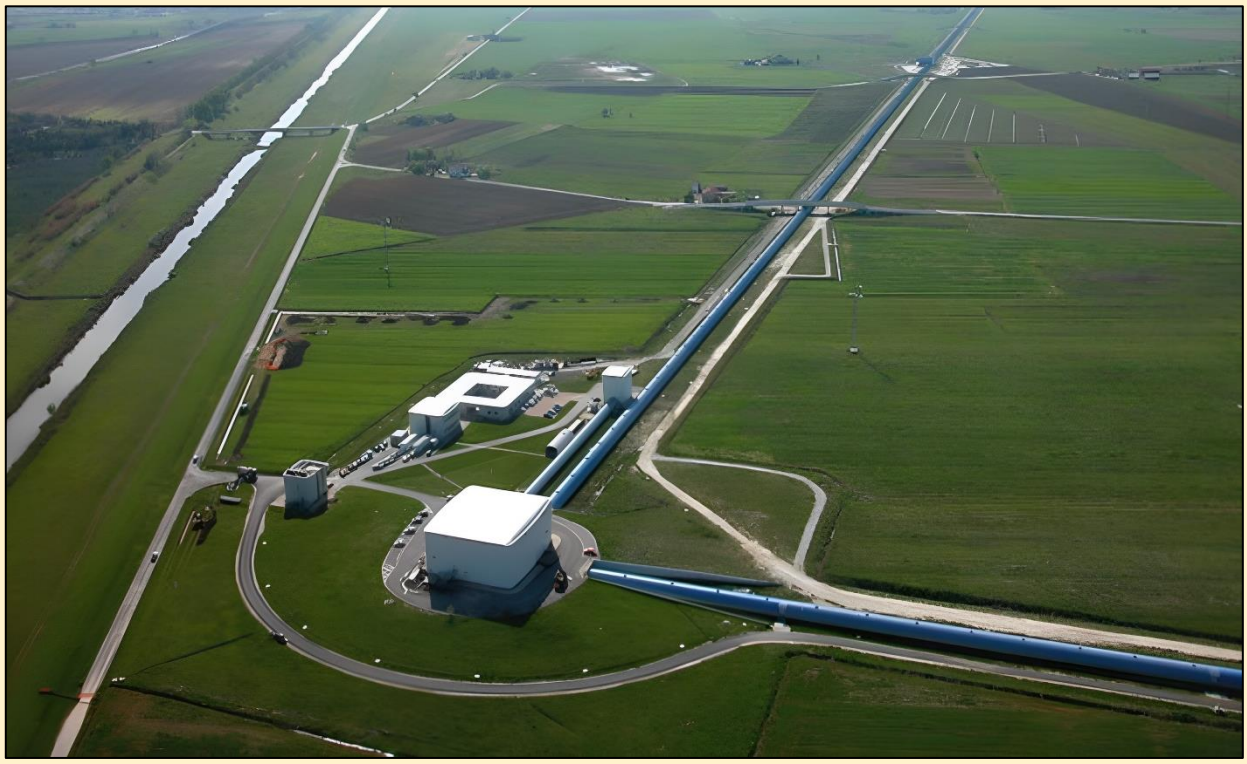
- LIGO first detected gravitational waves in 2015.
- Collaborators now include Virgo (Italy) and KAGRA (Japan).
- A new LIGO observatory is planned in India (Maharashtra), expected by April 2030, enhancing global detection capabilities.

Black Holes:

- A black hole is a region in space where gravity is so strong that nothing—not even light—can escape it.
- Formed when massive stars collapse under their own gravity at the end of their life cycle.
- The event horizon is the boundary beyond which nothing can return.
- Black holes can be of different types: stellar-mass, intermediate, and supermassive (found at the centers of galaxies).
- According to General Relativity, black holes warp spacetime, influencing nearby matter and light.

LIGO (Laser Interferometer Gravitational-Wave Observatory):

- LIGO is a large-scale physics experiment and observatory designed to detect gravitational waves—ripples in spacetime caused by massive accelerating objects like merging black holes or neutron stars.
- It uses laser interferometry to measure incredibly small disturbances caused by passing gravitational waves.



- In 2015, LIGO made the first direct detection of gravitational waves, confirming a major prediction of Einstein's theory of general relativity.
- The detected signal came from the merger of two black holes about 1.3 billion light-years away.

Link Between Black Holes and LIGO:

- Merging black holes are among the most powerful sources of gravitational waves.
- LIGO allows scientists to observe black holes indirectly, by detecting the gravitational waves produced during such cosmic events.
- This has revolutionized astrophysics by opening a new window to study invisible phenomena in the universe.

MIGRATION VISA

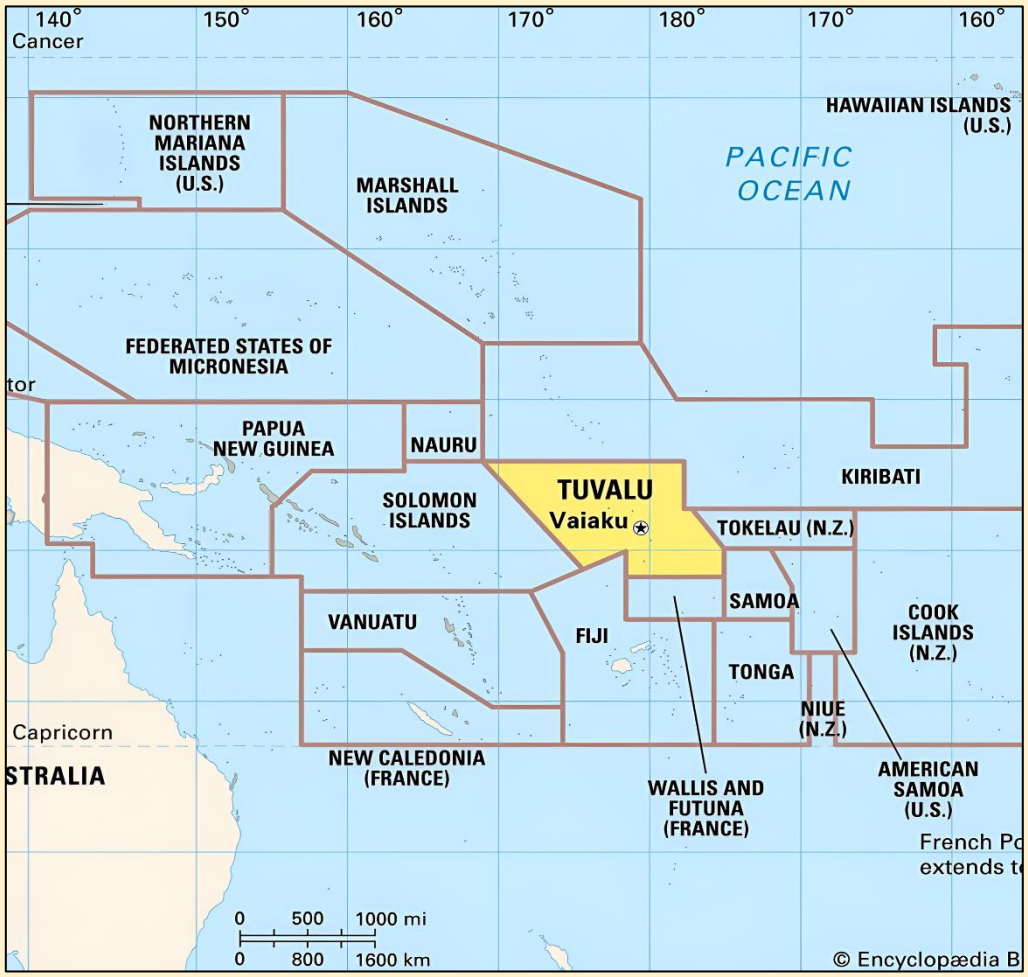
Australia launched a pioneering migration visa for Tuvalu residents. This visa offers a legal pathway for climate-induced migration. Over 5,000 Tuvaluans applied within a month.

The scheme allows 280 people annually to relocate to Australia through a ballot. This initiative addresses the severe impacts of climate change on Tuvalu's population.

Geographical and Environmental Vulnerability of Tuvalu

Tuvalu is a small Pacific island nation made up of nine low-lying atolls. Its average elevation is just 2 metres above sea level. Rising seas threaten flooding, storm surges, and land loss.

Sea levels near Tuvalu have risen by 15 cm in 30 years. By 2050, much of the land and infrastructure may be below high tide. Saltwater intrusion endangers freshwater supplies and agriculture.



Details of the Australia-Tuvalu Falepili Union Treaty

Signed in 2023 and effective from 2024, this treaty is the first of its kind globally. It grants Tuvaluans the right to live, work, and study in Australia with equal access to health and education.

The visa is voluntary; holders can return home anytime. The annual quota of 280 aims to balance migration with Tuvalu's economic and social stability.

Significance and Global Implications

This visa sets a precedent for climate-related migration policies. It recognises the urgent need to support climate-vulnerable nations. Experts suggest Australia may extend similar agreements to other Pacific islands like Kiribati.

The scheme promotes dignified mobility rather than forced displacement. However, it may lead to population decline in Tuvalu over time.

Social and Economic Impact on Tuvalu

With nearly 4% of the population potentially emigrating yearly, Tuvalu faces risks of brain drain and labour shortages. Over a decade, up to 40% of residents might leave if trends continue. This could affect community cohesion and economic viability. The visa's design tries to mitigate these risks by limiting numbers and allowing return visits.

Application and Future Prospects

Applications opened in June and closed in July 2025. The ballot results are expected by the end of July. The first migrants are likely to arrive in Australia by late 2025. The scheme's success will influence future climate migration frameworks worldwide. It offers a model for international cooperation on climate displacement.

MERI PANCHAYAT MOBILE APPLICATION

The Meri Panchayat mobile application gained international acclaim by winning the World Summit on the Information Society (WSIS) Prizes 2025 Champion Award. This recognition came under the Action Line Category for Cultural Diversity and Identity, Linguistic Diversity and Local Content.

The award was presented during the WSIS+20 High-Level Event 2025 held in Geneva, Switzerland. The event marked two decades since the original WSIS and focused on inclusive information societies worldwide. The app represents a major step forward in India's digital governance and rural empowerment.

Background of Meri Panchayat App

Meri Panchayat is an m-Governance platform launched by the Ministry of Panchayati Raj in partnership with the National Informatics Centre (NIC).

It serves over 2.65 lakh Gram Panchayats and empowers more than 25 lakh elected representatives. The app benefits nearly 950 million rural citizens by digitising governance and enhancing transparency at the grassroots level.

Features and Functionalities

The app offers real-time access to Panchayat budgets, receipts, payments, and development plans. It provides detailed information about elected representatives and Panchayat functionaries. Citizens can view public infrastructure data and civic services in their local Panchayat.

The platform supports Gram Panchayat Development Plans (GPDPs) and tracks project proposals. It also includes weather forecasts at the Panchayat level, social audit tools, and fund utilisation data.

Inclusiveness and Language Support

Meri Panchayat supports over 12 Indian languages, ensuring accessibility for diverse linguistic groups. The multilingual interface promotes cultural and linguistic diversity. This inclusiveness helps bridge the digital divide in rural India and encourages wider citizen participation.

Enhancing Participatory Democracy

The app empowers citizens to propose new projects and review existing works. It allows rating of completed projects and access to Gram Sabha agendas and decisions. Geo-tagging and geo-fencing features enhance grievance redressal and monitoring of fund utilisation. These tools strengthen transparency and participatory governance at the village level.

International Recognition and Significance

The WSIS Prizes 2025 Champion Award marks the global excellence of India's digital governance model. The award was received by Ms. Sunita Jain, Senior Director, NIC–MoPR, in Geneva. The recognition underlines the role of digital tools in promoting cultural identity, linguistic diversity, and local content. It also encourages further innovation in citizen-centric governance.

Gram Panchayat Development Plans

- Gram Panchayats have been mandated for the **preparation of GPDP for economic development and social justice** utilizing the resources available to them.
- The GPDP planning process will be comprehensive and participatory by involving **full convergence** with the schemes of all related Central Ministries / Line Departments.
- The People's Plan Campaign initiated under "Sabki Yojana Sabka Vikas" is an intensive and structured exercise for planning at Gram Sabha through **convergence between Panchayati Raj Institutions (PRIs) and concerned departments of the State.**

About the process

- Gram Panchayat Development Plans (GPDPs) will include **48 indicators** covering various aspects such as health and sanitation, education etc.
- After each GP is scored out of 100 — **with 30 marks for infrastructure, 30 marks for human development, and 40 marks for economic activity** — the GPs will be ranked.
- The data on the 48 indicators would come from Census 2011 (for physical infrastructure), **Socio-Economic Caste Census 2011** (for Household-level deprivation data), and fresh survey starting in September 2019 that will be carried out by **local facilitators.**
- The score for each GP will reflect the **local needs and priorities.**
  - For instance, for a drought-prone area, water conservation would be accorded the highest priority.
  - Within this ranking, households suffering the worst deprivations would be prioritised further.
- The entire ranking exercise is **meant to identify the gaps at the GP level, make an assessment of where it stands, and accordingly plan the interventions.**

LAKSHADWEEP CORAL REEF DECLINE

Key Findings

- 50% decline in live coral cover over the past 24 years—from 37% in 1998 to below 20% today.
- Study tracked reefs at Agatti, Kadmat, and Kavaratti.
- Repeated marine heatwaves (1998, 2010, 2016) and climate change are major causes.

Causes of Decline

- Marine heatwaves raise ocean temperatures, leading to coral bleaching.
- Reduced recovery time between bleaching events limits reef regeneration.
- Warming seas continuously stress coral ecosystems.

Ecological & Social Impact

- Risk of functional extinction: reefs may no longer support biodiversity or protect islands.
- Even resilient coral species now show bleaching signs.
- Local communities face threats to livelihoods and coastal safety.

Urgency & Outlook

- Time is critical—reefs need long recovery periods to regenerate.
- Local measures can help, but global climate action is essential for long-term survival.

Coral Reefs

- Coral reefs are marine ecosystems made up of calcium carbonate structures secreted by corals (marine invertebrates).
- They are found in shallow, warm, and sunlit waters typically between 30°N and 30°S latitude.
- Known as "rainforests of the sea," they support around 25% of marine biodiversity despite covering less than 1% of the ocean floor.

Major Types of Coral Reefs:

1. Fringing Reefs – Directly attached to a shoreline (e.g., Gulf of Mannar, India).
2. Barrier Reefs – Separated from land by a lagoon (e.g., Great Barrier Reef, Australia).
3. Atolls – Circular reefs enclosing a lagoon, often over sunken volcanoes (e.g., Lakshadweep).

Coral Bleaching: Concept

- Coral bleaching occurs when corals expel symbiotic algae (zooxanthellae) due to stress, primarily from increased sea surface temperatures.
- The algae provide food and color to corals; without them, corals appear white (bleached) and are more vulnerable to death

Causes of Coral Bleaching:

1. **Climate Change**:
   - Elevated sea temperatures (above 1–2°C from average) are the primary driver.
   - Associated with El Niño events and global warming.
2. **Ocean Acidification**:
   - Absorption of CO_2 by oceans reduces availability of calcium carbonate, hindering coral skeleton formation.
3. **Pollution**:
   - Agricultural runoff (nitrates/phosphates), plastics, and oil spills damage coral health.
4. **Sedimentation**:
   - Reduces light penetration, affecting photosynthesis in symbiotic algae.
5. **Overfishing & Unsustainable Tourism**:
   - Disrupt reef ecosystem balance and cause physical damage.

Impacts of Bleaching:

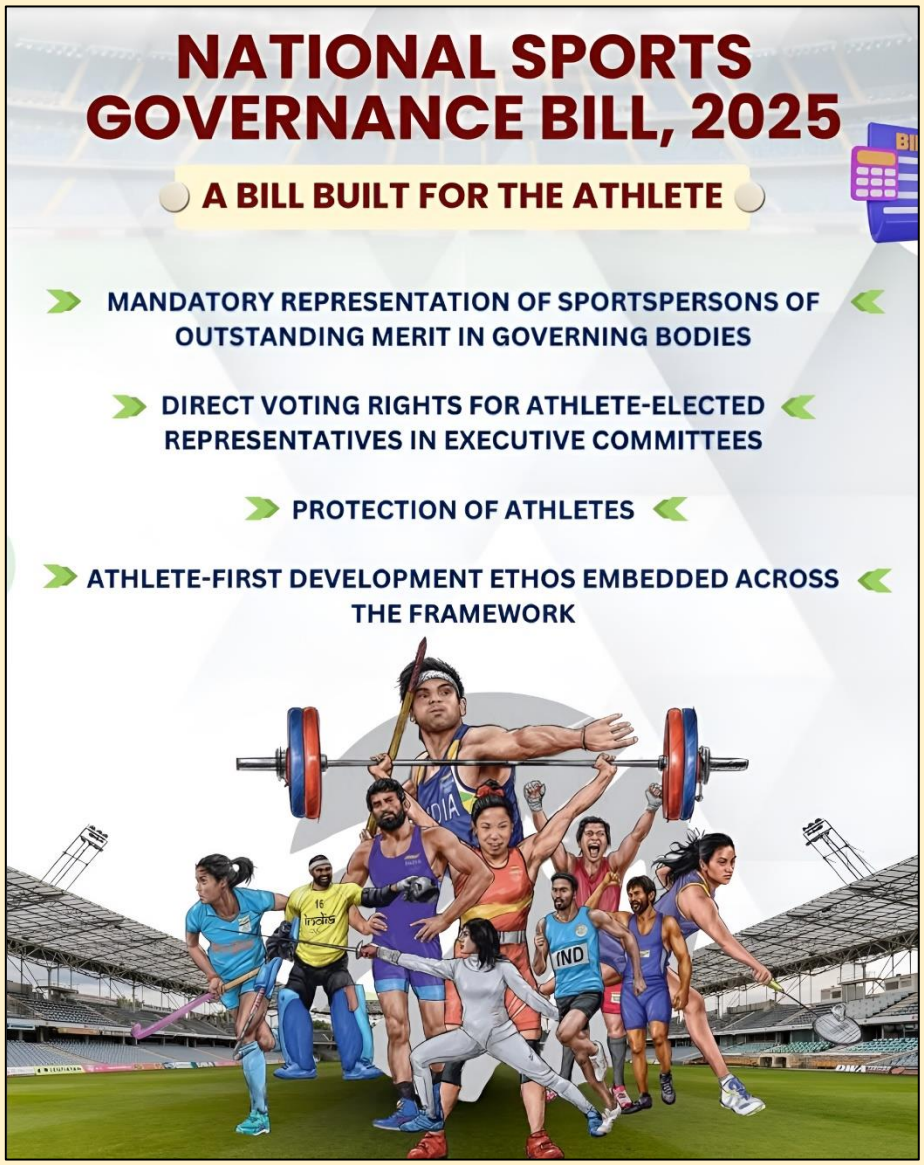
- Ecosystem collapse: Loss of marine species reliant on coral ecosystems.
- Fisheries affected, threatening food security and livelihoods.
- Reduced coastal protection from storm surges and erosion.
- Decline in marine tourism revenue.

Global and National Efforts:

- **International**:
  - Coral Triangle Initiative.
  - UN SDG 14 (Life Below Water).
  - IPCC reports warning against warming above 1.5°C.
- **India**:
  - Coral reef monitoring under ICMAM (Integrated Coastal and Marine Area Management).
  - Coral restoration projects in Gulf of Mannar, Lakshadweep, and Andaman & Nicobar.
  - Laws: Coastal Regulation Zone (CRZ) Notification, Wildlife Protection Act, 1972 (Schedule I protection for coral reefs).

THE NATIONAL SPORTS GOVERNANCE BILL INTRODUCED IN THE LOK SABHA

- **Formation of a National Sports Board**:
  - A SEBI-like statutory body to oversee all sports federations, including BCCI.
  - Ensures centralized regulation, transparency, and accountability in sports governance.
- **Creation of a National Sports Tribunal**:
  - A civil court-like body to adjudicate sports-related disputes (e.g., selection, federation elections).
  - Tribunal decisions appealable only to the Supreme Court.



Need for the Bill:

- Current sports governance is ad hoc and fragmented.
- Aims to replace judicial overreach and frequent court interventions with specialized regulatory and adjudicatory mechanisms.

Key Issues Addressed:

- Autonomy of the Tribunal: Presumed to be independent and free of conflicts, unlike past tribunals.
- Transparency in the National Sports Board: Will require strong public accountability and clear procedures.

- Age & Tenure Cap: Caps administrators' age at 75 and removes fixed terms to make room for experienced international representation.
- BCCI under purview: Brings BCCI under government oversight for the first time, aligning it with national standards.
- Athletes' Right to Redressal: Tribunal will replace courts as the primary forum for dispute resolution, aligning with global norms like the FIFA model.

Khelo India Programme

- **Launched**: 2018
- **Aim**: Revitalize sports culture at the grassroots level and identify young talent.
- **Key Features**:
  - Annual Khelo India Youth Games and University Games.
  - Financial assistance of ₹5 lakh per annum for 8 years to selected athletes.
  - Creation of sports infrastructure (e.g., centers of excellence, academies).

Target Olympic Podium Scheme (TOPS)

- **Launched**: 2014 (revamped under Khelo India)
- **Objective**: To support India's elite athletes for Olympic and Paralympic Games.
- **Features**:
  - Funding for coaching, training, equipment, foreign exposure.
  - Support staff including physiotherapists, nutritionists, and mental trainers.

National Sports Development Fund (NSDF)

- **Established**: 1998
- **Purpose**: Mobilize private/public funds to support top-tier athletes and infrastructure.
- **Usage**:
  - Customized training.
  - Equipment and facilities development.

Fit India Movement

- **Launched**: 2019
- **Objective**: Encourage a healthy and active lifestyle across all age groups.
- **Initiated by**: Ministry of Youth Affairs and Sports (MoYAS)
- **Focus Areas**: Fitness pledges, fitness audits of institutions, campaigns in schools and workplaces.

Sports Authority of India (SAI) Schemes

- **Key Schemes**:
  - **National Centres of Excellence (NCOEs)** – elite athlete grooming.
  - **SAI Training Centres (STCs)** – grassroots level training for young talent.
  - **Extension Centres of STCs** – training in schools/colleges with sports tradition.

Pandit Deendayal Upadhyay National Welfare Fund for Sportspersons

- **Aim**: Provide financial aid to sportspersons in indigent circumstances or those injured during their career.
- **Support includes**: Medical treatment, pension, and sustenance allowance.

Mission Olympic Cell (MOC)

- **Function**: Operational arm under TOPS for monitoring and clearing athlete proposals on a fast-track basis.

National Physical Fitness Campaign

- **Target**: School children (5–18 years).
- **Purpose**: Monitor and enhance physical fitness levels through standardized tests.

KERALA STATE CIVIL SERVICE ACADEMY

Established under Centre for Continuing Education Kerala (CCEK)

NURTURING YOUNG MINDS TOWARDS TOMORROW'S CIVIL SERVICE

COURSES

Prelims Cum Mains Regular Batch

Course Fee: : ₹ 49,200 (₹ 40,000 + 18% GST ₹ 7,200 + Caution Deposit ₹ 2,000)

Prelims Cum Mains Weekend Batch

For the Working Professionals & students who are doing their UG/PG

- Course Fee: Ongoing Degree/PG students: ₹ 41,300 (₹ 35,000 + 18% GST ₹ 6,300)
- Course Fee: Working Professionals : ₹ 49,200 (₹ 40,000 + 18% GST ₹ 7,200 + Caution Deposit ₹ 2,000)

Civil Service Foundation Course

For Higher Secondary School Students

Course Fee: ₹ 5,900 (₹ 5,000 + GST ₹ 900)

Talent Development Course

For High School Students

Course Fee: ₹ 4720 (₹ 4,000 + 18% GST ₹ 720)

REHEARSE
RESILIENCE
REKINDLE
REPHRASE

REHEARSE- Prelims Test Series

38 Test papers including 3 exclusive current affairs tests and 5 CSAT papers

RESILIENCE- Mains Test Series

17 Tests including compulsory papers

REKINDLE- PCM REPEATERS BATCH

Mentorship, Weekly Current Affairs classes, Bi Weekly CSAT classes, Prelims Test Series, Revision classes, Extensive Answer Writing class / Practices

REPHRASE- Mains Answer Writing Programme

This answer writing exercise will cover Essay, General Studies - I, General Studies - II, General Studies -III & General Studies -IV papers

KEY HIGHLIGHTS

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- Expert faculties.
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- Instalment facility for fee payment available to BPL category students.

Optional Subjects

Geography, History, Malayalam, Political Science & International Relations, Public Administration and Sociology

Course Fees : Rs. 11,800/– (Fees Rs 10,000/- + GST Rs.1,800/-).

KERALA STATE CIVIL SERVICE ACADEMY

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