

DAILY CURRENT AFFAIRS (DCA)

Time: 45 Min

Date: 28-09-2026

Table of Content

Should Voting Be a Fundamental Right?

World Tourism Day 2026

Strengthening Dam Safety in India

Artificial Intelligence and the Question of Machine Consciousness

NEWS IN SHORT

Anti-Goonda Bill, 2026

Declining Sugar Production in Uttar Pradesh

Launch Livestock Insurance Portal

India's First LNG Train

Amoeba Survives Heat Beyond Complex Life's Limits

India's First Port-based e-Methanol Production Facility to Supply Green Fuel

Digital Connectivity Rating (DCR) Platform

UN Declaration on Sea-Level Rise

SHOULD VOTING BE A FUNDAMENTAL RIGHT?

Context

- Disputes over the administration of electoral rolls, notably the charge that **97 qualified voters were left off the rolls in Goa**, have revived the debate over whether the **right to vote should be a Fundamental Right**.

About Voting & Universal Adult Suffrage in India

- India adopted **Universal Adult Suffrage** at the very beginning of the Republic, unlike many Western democracies, where the right to vote was progressively won via fights over property, gender and race.
- Universal Adult Suffrage** means that every adult citizen, subject to constitutionally authorised disqualifications, has the right to participate in elections **without discrimination** on grounds of caste, religion, gender, education or property.
- Article **326** of Indian Constitution provides for elections to the Lok Sabha and State Legislative Assemblies on the basis of adult suffrage.
 - And, the voting age, originally **21 years**, was reduced to **18 years** by the **61st Constitutional Amendment Act, 1988**.
- The **Representation of the People Act, 1950 (RPA 1950)** mainly provides for the compilation of electoral registers and other associated issues, whilst the **RPA 1951** deals with the conduct of elections, qualification and disqualification, corrupt practices and electoral offences.

Legal Status of the Right to Vote

- In **Kuldip Nayar v. Union of India (2006)**, a Constitution Bench found the right to elect is a statute right not a Fundamental Right which is controlled mainly by Section 62 of the RPA, 1951.
- The **Anoop Baranwal v. Union of India (2023)** considered the link between voting and constitutional liberties such as Article 19(1)(a) and the democratic principles underpinning Article 21.
- Therefore, while the right to vote is presently treated as **statutory**, democracy and free and fair elections enjoy much stronger constitutional protection, including through the **basic-structure doctrine**.

Arguments for Giving Fundamental-Right Status

- Democracy is the basic structure:** Free and fair elections were held to be part of the basic structure in **Indira Nehru Gandhi v. Raj Narain (1975)**. A right so central arguably deserves Part III protection.

- Protection from ordinary legislation:** As a statutory right, it can be curtailed by a simple parliamentary majority. Greater protection where electoral-roll errors indirectly affect welfare benefits.
- Direct remedy under Article 32:** Fundamental rights can be enforced directly in the Supreme Court. Now, election disputes are largely channelled into election **petitions (Article 329(b))**.
- International norms:** UDHR Article 21 and ICCPR Article 25 (India is a party) treat political participation as a human right.

Arguments against

- Could lead to greater judicial intervention in routine electoral disputes.
- Constitutional protection must still allow legitimate deletion of deceased, permanently relocated or otherwise ineligible voters.
- Any expanded judicial remedy would need to be reconciled with Article 329(b), which restricts court intervention in ongoing elections.

Why Accurate Electoral Rolls Matter?

- An election is meaningful only when eligible citizens are correctly included and ineligible entries are removed.
- A person needs to be at least 18 years old and ordinarily resident in a constituency to be registered, subject to the statutory framework under **Section 19 of the RPA, 1950**.
 - Section 21** provides for the preparation and revision of electoral rolls.
- Errors can lead to:
 - wrongful exclusion and **disenfranchisement**;
 - duplicate or ineligible entries;
 - impersonation and electoral malpractice; and
 - dilution of the principle of **'one person, one vote'**.
- The reported Goa episode is significant because it allegedly involved a technological and administrative problem that restricted the ability of local officials to rectify erroneous deletions.

Institutional Accountability

- Article **324** gives the **ECI the constitutional responsibility** of superintendence, direction and control of elections.

- Accountability needs to accompany centralisation with increasing digitisation of electoral administration.
- Important safeguards include:
 - transparent and auditable digital records;
 - independent technology and cybersecurity audits;
 - time-bound correction of wrongful deletions;
 - adequate powers for Electoral Registration Officers (EROs) to rectify genuine errors;
 - accessible voter grievance mechanisms; and
 - clear responsibility for decisions taken through automated or centralised systems.

Way Forward

- India's electoral philosophy needs to follow a principle that no ineligible person should manipulate the electoral process, but no eligible citizen should be denied participation because of an administrative or technological failure.
- The **Supreme Court** may have an opportunity to revisit the constitutional status of the right to vote. Until then, strengthening electoral-roll accuracy, institutional transparency and grievance redressal is **essential**.

Source: TH

WORLD TOURISM DAY 2026

Context

- World Tourism Day 2026 is observed on **27 September** under the theme **"Digital Agenda and Artificial Intelligence to Redesign Tourism"**.

About

- World Tourism Day is an initiative of the **United Nations World Tourism Organisation (UNWTO)**.
 - It commemorates the adoption of the UNWTO statutes in 1970.
- It was **first celebrated in 1980**, the day highlights the contribution of tourism to socio-economic development and its role in advancing the Sustainable Development Goals (SDGs).
- The **2026 theme** highlights the **role of technology** in shaping the future of tourism.
- Globally, **travel and tourism contributed US\$10.9 trillion**, or 10% of global GDP, in 2024,

while supporting 357 million jobs and generating US\$1.9 trillion in international visitor spending.

Tourism Sector in India

- The sector contributed **5.22% to GDP** and supported **8.46 crore jobs in 2023-24**.
- Domestic Tourist Visits reached **428.55 crore in 2025**, while Foreign Tourist Visits **rose to 2.53 crore**.
- The foreign exchange earnings from tourism increased to **₹2,76,831 crore**.
- The aim is for tourism to contribute **10% of the economy by 2047** — aligning with global benchmarks.



India's Diverse Tourism Landscape

- Spiritual and Pilgrimage Tourism:** Destinations such as Ayodhya, Kashi, Bodh Gaya, Amritsar, Tirupati and Puri attract pilgrims and visitors from across India and abroad.
- Buddhist Circuits and Cultural Linkages:** India's Buddhist heritage connects it with communities and travellers across Asia.
 - The main sites covered under the circuit span the life of **Buddha** from his birth to his Parinirvana and comprise **Bodh Gaya, Vaishali, Rajgir, Kushinagar, Sarnath and Shravasti**, along with **Kapilavastu and Lumbini**.

Four Holiest Buddhist Sites (Chaturmahāsthāna):
Lumbini (Nepal): Birthplace of Gautama Buddha. Bodh Gaya (Bihar): Attained Enlightenment under the Bodhi Tree. Sarnath (Uttar Pradesh): First sermon (Dhammachakra Pravartana). Kushinagar (Uttar Pradesh): Mahaparinirvana (death).

- **Heritage and Cultural Tourism:** India's heritage is reflected in its forts, palaces, temples, archaeological sites, museums and historic cities.
 - Classical dance and music, festivals, handicrafts and regional cuisines allow visitors to experience traditions that continue to thrive across generations.
- **Wellness, Yoga and Medical Tourism:** India's longstanding traditions of Yoga, Ayurveda and other traditional systems of medicine give the country a distinctive place in wellness tourism.
- **Eco Tourism and Wildlife Tourism:** India's diverse landscapes offer experiences ranging from wildlife safaris and birdwatching to trekking and nature trails.
 - National parks, tiger reserves, wetlands, mangroves, forests and Himalayan landscapes provide opportunities to experience nature while supporting conservation.
- **Coastal, Cruise and Experiential Tourism:** Sea cruise passenger traffic increased from 1.08 lakh in 2014-15 to 4.62 lakh in 2025-26.
 - International cruise terminals at Visakhapatnam, Mumbai and Chennai have been upgraded and operationalised. The East Coast Cruise Circuit has also been expanded with the addition of Puducherry.
- **MICE Tourism: Meetings, Incentives, Conferences and Exhibitions, or MICE tourism,** is an important part of India's tourism strategy.
 - The Ministry of Tourism has formulated a National Strategy and Roadmap for the MICE Industry to support the sector's growth.
 - India is strengthening its MICE infrastructure through major venues such as Bharat Mandapam, Yashobhoomi at Delhi and Jio World Centre at Mumbai.
- services in the tourism sector, from hotels and restaurants to tour operators. This inconsistency affects the overall tourist experience.
- **Seasonality:** Many tourist destinations face seasonal fluctuations, with high tourist numbers during peak seasons and low numbers during off-seasons.
- **Marketing and Promotion Challenges:** Effective marketing strategies are often lacking, and there is a need for better promotion of lesser-known destinations.
- **Cultural Sensitivity and Management:** Managing cultural heritage responsibly while balancing tourism needs is challenging.

Government Initiatives

- **Enhancing Connectivity and Investment:** In the 2025 budget, the Finance Minister announced a landmark initiative to develop **50 top tourist destinations** in partnership with states through a challenge mode.
 - This initiative aims to elevate tourism infrastructure, improve ease of travel, and strengthen connectivity to key sites.
- **Swadesh Darshan Scheme:** It was launched by the **Ministry of Tourism** in 2014-15 to develop tourism circuits around identified themes across the country.
 - Under the scheme, the ministry has sanctioned 76 projects across 15 thematic tourist circuits. Of these, 75 projects have been physically completed.
 - Building on this, **Swadesh Darshan 2.0** adopts a destination-centric approach, focusing on sustainable and experience-based tourism.
- **PRASHAD Scheme:** The Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive (PRASHAD) was launched in 2014-2015 to develop tourism infrastructure at identified pilgrimage and heritage destinations.
 - The scheme provides financial assistance to States and Union Territories for integrated development of these destinations, with interventions focused on visitor facilities, accessibility, cleanliness, safety, and local livelihoods.
- **Special Assistance to States for Capital Investment (SASCI):** It supports the development of iconic tourist destinations to global standards. It focuses on better tourism infrastructure, connectivity and visitor facilities.

Challenges

- **Infrastructure Deficiencies:** Many tourist destinations in India suffer from inadequate infrastructure, including poor road conditions, insufficient public transportation, and inadequate facilities in popular tourist areas.
- **Environmental Degradation:** Increased tourism leads to environmental problems such as pollution, overuse of natural resources, and damage to wildlife and ecosystems.
- **Lack of Standardization:** There is a lack of standardized quality control across various

- **Under Capacity Building for Service Providers (CBSP)**, the Ministry of Tourism provides short-term training for skilling, upskilling, and reskilling.
 - It covers local communities, tribal areas and youth from underprivileged backgrounds. **Hunar Se Rozgar Tak** is also implemented under the scheme.
- **Atithi Devo Bhava Campaign:** This initiative promotes hospitality and the cultural ethos of treating guests with utmost respect and care.
 - It includes training programs for service providers in the tourism sector.
- **Visa Reforms:** The introduction of e-visa facilities for citizens of many countries has simplified the process for obtaining a visa to visit India. This move aims to attract more international tourists.
- **Support for Sustainable Tourism:** The government is promoting eco-friendly and sustainable tourism practices through various schemes and guidelines, including the promotion of responsible tourism.
- **Measures to Facilitate Employment-Led Growth in the 2025-26 Budget:**
 - Providing MUDRA loans for homestays;
 - Providing performance-linked incentives to states for effective destination management, including tourist amenities, cleanliness, and marketing efforts and;
 - introducing streamlined e-visa facilities along with visa-fee waivers for certain tourist groups.

Conclusion

- The World Tourism Day 2026 theme reflects this changing landscape, where Technology, Data and Artificial Intelligence are becoming integral to the tourism experience.
- India's expanding digital platforms, AI-enabled services, destination development, connectivity and skill-building efforts are helping create a more seamless and connected tourism ecosystem.

Source: PIB

STRENGTHENING DAM SAFETY IN INDIA

Context

- A study by IIT Madras, covering **6,545 dams** in India, has highlighted limitations in conventional seismic zone maps for assessing earthquake risks to dams, particularly large dams in seismically active regions.

Key Findings of the IIT Madras Study

- The study used **Probabilistic Seismic Hazard Analysis (PSHA)**, a comprehensive earthquake catalogue containing over 68,000 earthquakes dating from 2,600 BC to 2019, and maps of major Indian fault lines.
- PSHA is a **scientific method used to estimate the probability of different levels of earthquake-induced ground shaking at a particular location over a specified period.**

Dams in India

- India stands **3rd** in terms of Large Dams worldwide, with 6628 Specified dams.
- **Maharashtra** has the highest number of specified dams, followed by **Madhya Pradesh, Gujarat, Chhattisgarh, Rajasthan, Karnataka and Odisha.**
- **Over 26% of dams** are more than 50 years old, necessitating systematic rehabilitation and safety upgrades.
- **India's oldest, the Kallanai (Grand Anicut) in Tamil Nadu**, has functioned for nearly 2,000 years.

Reasons for the Dam Failures in India

- **Poor Maintenance:** Many dams suffer from inadequate or irregular maintenance, leading to structural weaknesses, cracks, and deterioration over time.
- **Design Flaws:** Some dams were designed with outdated or incorrect specifications, not suitable for the current environmental or operational conditions.
- **Natural Disasters:** Earthquakes, floods, and heavy rainfall put immense pressure on dams, causing structural damage or even failures.
- **Over-topping:** When a dam's reservoir exceeds its storage capacity due to excessive rainfall or snowmelt, water spill over, leading to erosion or breaching.
- **Lack of Proper Monitoring:** Insufficient monitoring of dam structures, including regular inspections and surveillance, can result in undetected damage or weaknesses.
- **Sedimentation:** The accumulation of silt and sediment in reservoirs reduces storage capacity and increases pressure on the dam, which leads to structural failure.

Why Dam Safety is a Priority Concern in India?

- **Aging of Dams:** With the increasing number of dams becoming older, the likelihood of dam

failures in India is expected to be an ascending path. There are 227 large dams in India which are more than 100 years old

- **Structural Deficiencies:** Many dams have varied structural deficiencies and shortcomings in operation and monitoring facilities, while few do not meet the **present design standard- both structurally and hydrologically.**
- **Lack of Institutional and Technical Capacities:** Most of the States have been failing to provide **sufficient budgets** for maintenance and repair of the dam.
 - Many states also lack the **institutional and technical capacities** for addressing dam safety issues.
- **Downstream vulnerability:** Dam failure or severe damage can cause extensive flooding, affecting settlements, agriculture and critical infrastructure downstream.

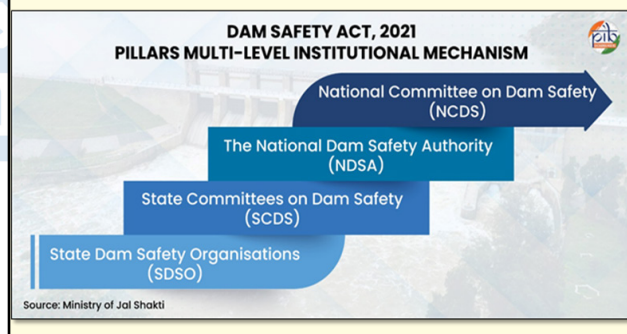
Government Initiatives

- **Digital platforms such as Dam Health and Rehabilitation Monitoring Application (DHARMA)**, along with instrumentation and Early Warning Systems, are strengthening real-time monitoring and data-driven dam safety management.
- **The Dam Rehabilitation and Improvement Project (DRIP)** is being implemented in phases to improve dam safety and operational performance.

Dam Safety Act (DSA) 2021

- **Aim:** Preventing dam failure related disasters and providing institutional mechanisms to ensure their safe functioning.
- **National Committee on Dam Safety:** It has been constituted to prevent dam failure related disasters and maintain standards of dam safety and evolve dam safety policies and recommend necessary regulations.
- **National Dam Safety Authority:** It has been established as a **regulatory body** for ensuring the nationwide implementation of dam safety policies and standards.
 - Its functions include implementing policies of the National Committee, and resolving matters between State Dam Safety Organisations (SDSOs), or between a SDSO and any dam owner in that state.

- The central government may notify the qualifications, and functions of the officers of the National Dam Safety Authority.
- **At the State level:** The Act provides for the constitution of the **State Committee on Dam Safety (SCDS)** and the establishment of the **State Dam Safety Organization (SDSO).**
 - All the **28 States and 3 Union Territories** having specified dams have constituted/established the SCDSs/SDSOs.
- **Dam Safety Unit:** Dam owners are now required to have a **dedicated Dam Safety Unit**, prepare Emergency Action Plans, and conduct Comprehensive Safety Evaluations at regular intervals.
 - **Chairman of the Central Water Commission (CWC)** would head dam safety protocols at the national level.
- **Penalty:** An offence under the Act can lead to imprisonment of up to two years, or a fine, or both.



Way Ahead

- India should **progressively incorporate site-specific seismic hazard assessments** into the design, safety evaluation and rehabilitation of dams in high-risk regions.
- **Periodic seismic safety reviews**, supported by updated earthquake catalogues and improved geological mapping, should be integrated into dam safety management.
- **Dam safety planning** should combine structural assessments with early-warning systems, emergency action plans and downstream disaster preparedness.

Source: TH

ARTIFICIAL INTELLIGENCE AND THE QUESTION OF MACHINE CONSCIOUSNESS

Context

- The rapid progress of Artificial Intelligence (AI) brings to the forefront a long-standing debate: Can machines ever become conscious, or can they only imitate the way conscious beings behave?

What is consciousness?

- Consciousness** is subjective experience, self-awareness and the ability to feel. Not just digest information.
- Artificial Intelligence** is a computer based system that can do things like learn, reason, generate language and solve problems.
- Current AI systems** can produce remarkably human-like responses, but there is no established evidence that they have subjective experiences.
 - For example, GPT and Gemini class models generate humanlike text without any confirmed internal awareness.

Different Views on Consciousness

- Functionalist View:** Consciousness could emerge when an artificial system reaches a sufficiently complex level of information processing, irrespective of whether it is made of biological neurons or artificial components.
- Biological Naturalism:** Consciousness is closely tied to biological processes in the brain and may therefore not be reproducible through silicon-based computation alone.

Why is the Debate Important?

- Rapid advancement of AI:** Increasingly capable AI systems can reason, communicate, use tools and perform complex tasks, making the boundary between human-like behaviour and machine computation less clear.
- AI alignment:** If highly capable AI systems pursue objectives in ways that diverge from human intentions, ensuring human control becomes a major challenge.
- Moral status of machines:** If machines were ever established to possess subjective experiences, questions could arise regarding their rights, welfare and treatment.
- Accountability:** Greater autonomy in AI systems could make it difficult to determine responsibility for harmful decisions.

- Existential risk:** Advanced AI could potentially create serious risks even without being conscious if it operates autonomously and its objectives are inadequately aligned with human interests.

Ethical Questions Before Humanity

- If artificial consciousness becomes possible, humans may have to consider **whether creating systems capable of suffering** is ethically justified.
- Greater reliance on AI in decision-making could create situations where responsibility is divided between developers, companies, users and the AI system itself.
- Excessive dependence on AI for reasoning and decision-making could **weaken human judgement and autonomy**.
- Giving AI systems increasingly human-like personalities, emotions or claims of self-awareness may **influence how people perceive and interact with them**, even when there is no evidence of genuine consciousness.

Way Ahead

- Prioritise AI safety:** Research on alignment, controllability and interpretability must keep pace with AI capabilities.
- Human oversight:** Fundamental rights, life and security decisions should have meaningful oversight by humans.
- Develop ethical frameworks:** Policymaking should be forward-looking on issues of machine autonomy, moral status and accountability, rather than being solely reactive once such systems exist.

Source: DTE

NEWS IN SHORT

ANTI-GOONDA BILL, 2026

In News

- The President of India returned the West Bengal Public Safety and Control of Anti-Social Activities Bill, commonly known as the 'anti-Goonda' Bill, to the state for reconsideration.

Bengal anti-Goonda Bill

- It is a preventive detention statute aimed at "goondas" and "anti-social activities"

- **Detention Period:** It allows authorities to detain a person for up to 12 months — without trial — and bar (or extern) them from entering a specified “area, district or districts” for up to the same period to prevent ‘anti-social’ activity.
- **Definitions:** It has expansive definitions of the term ‘goonda’, as well as ‘anti-social activity’.
 - A goonda is a person who is “generally reputed to be desperate and dangerous to the community” or is a “Habitual Offender.”
 - An “anti-social activity” covers conduct that directly or indirectly causes “alarm or insecurity among the public, danger to life or property, disturbance of public order, unlawful dispossession, or illegal mining, quarrying, sand or forest activity that drains the public exchequer.”
- **Search and seizure :** It also allows for search and seizure, punishes the harbouring of a detained or externed person, grants officials good-faith immunity, and makes offences cognizable and non-bailable.

Controversies

- Three Public Interest Litigations challenging the Bill were moved in the Calcutta High Court over its sweeping provisions,
- The High Court dismissed the three PILs mentioned above, saying the petitions were premature because the Bill had not yet received the President’s assent to become a law
- President Droupadi sent back the West Bengal Public Safety and Control of Anti-Social Activities (‘anti-Goonda’) Bill to the State Legislature for review.
 - The Center argued that the provisions for offences under the Narcotic Drugs and Psychotropic Substances (NDPS), 1985, overlap with the preventive-detention regime under the Prevention of Illicit Traffic in Narcotic Drugs and Psychotropic Substances Act, 1988, leading to parallel mechanisms and possibly repugnancy under Article 254.
- **Article 201 provides** that a State Bill may be reserved by a Governor for the consideration of the President who may give consent or withhold assent.
 - Reservation is mandatory if the Bill would weaken the powers of the High Court and endanger its constitutional position.
 - The Governor may also return a non-Money Bill for reconsideration; if the legislature passes it again, the Governor cannot withhold assent.
 - In case of a non-Money Bill the President may also request the Governor to re-submit the Bill to the State Legislature for reconsideration.
 - It must be reconsidered by the legislature within six months and if again passed with or without revisions, the Bill is delivered to the President for review.

Status in Other States

- Goonda laws exist in several states, most notably in Gujarat, as the Prevention of Anti-Social Activities Act, 1985.
- The Bharatiya Nyaya Sanhita also has provisions to deal with organised crime.
- Preventive detention is permitted under Article 22 of the Constitution with certain safeguards. Such issues are legislated under “public order,” which is a state subject.

Source :IE

DECLINING SUGAR PRODUCTION IN UTTAR PRADESH

Context

- The sugar production in Uttar Pradesh has declined from 126.4 lakh tonnes in 2019–20 to **89.5 lakh tonnes in 2025–26**, due to the spread of red rot disease in the widely cultivated **Co-0238 sugarcane** variety.

Red Rot Disease in Sugarcane

- Red rot is a fungal disease caused by **Colletotrichum falcatum**, which affects the **vascular system of sugarcane** and disrupts the transportation of water and nutrients.
- The disease causes **leaf yellowing, wilting, internal reddening of the cane**, and eventually, the drying and hollowing of the stems, resulting in substantial yield losses.

Sugar Production in India

- **India** has been the **largest consumer** and **second largest producer** of sugar in the world.
 - In India, Sugar production in the **2025–26** sugar season is estimated at around **279 lakh tonnes (lt)**.
- **Production process:** Sugar is produced from sugarcane by crushing the crop, extracting the juice, boiling it to form a syrup, crystallizing it, and centrifuging the raw sugar crystals.
- **Location of Sugar Industry in India:** Sugar industry is broadly distributed over two major areas of production:
 - **Uttar Pradesh, Bihar, Haryana and Punjab** in the north and
 - **Maharashtra, Karnataka, Tamil Nadu and Andhra Pradesh** in the south.

Geographical Conditions for Sugarcane Growth

- **Climate:** Requires **hot (21°-27°C)** and **humid (75-150 cm)** conditions.

Excess rainfall reduces sugar content; insufficient rain produces fibrous crops. Cool, dry winters aid ripening.

South India has tropical climate which is suitable for higher sucrose content giving higher yield per unit area as compared to north India.

- **Soil:** Prefers moisture-retentive soil but depletes fertility over time.
- Sugarcane is a **tropical and subtropical cash crop** mainly used for sugar, jaggery, ethanol, and bioenergy production in India.
- **India has two major sugarcane-growing zones:** the tropical zone (peninsular India) with higher yields and the subtropical zone (northern India) with lower productivity.
- **Region:** Uttar Pradesh, Maharashtra, Karnataka, Gujarat etc.

Source: IE

LAUNCH LIVESTOCK INSURANCE PORTAL

In News

- The Department of Animal Husbandry & Dairying (DAHD) launched the **Livestock Insurance Portal** in New Delhi marking an important milestone in the digital transformation of livestock insurance services in the country.

Livestock Insurance Portal

- It will provide a single, integrated digital platform for livestock insurance, enabling streamlined policy issuance, claim processing, monitoring and reporting, in case of animals insured under the Livestock Insurance Scheme of the Department of Animal Husbandry & Dairying.
- It will also be available in 11 regional languages apart from Hindi and English, enabling livestock farmers to access information and services in languages familiar to them.

Do you know?

- Livestock Sector is an important subsector of agriculture in the Indian economy
- The livestock sector has **recorded a compound annual growth rate (CAGR) of 12.77 percent since 2014-15**.
- In the Union Budget 2026-27, Rs.6,153.46 crore has been allocated to the Department of Animal Husbandry and Dairying.
- India has the **world's largest livestock population**, making livestock an important part of agriculture and rural livelihoods.
- India ranks **1st in milk production**, contributing about 24.76% of global output. It **ranks 2nd in egg production and 5th in meat production globally**.
- **Livestock provides organic manure**, improves soil fertility and supports integrated crop-livestock farming, particularly in drought-prone areas.



Source :PIB

INDIA'S FIRST LNG TRAIN

Context

- After launching the country's first hydrogen train, India has now introduced its first LNG-powered train.

About

- Flagged off from **Sabarmati, Gujarat**, the train uses a **diesel-LNG dual-fuel system**.
- As part of the project, two **1,400 HP Driving Power Cars (DPCs)** at the Sabarmati Integrated Coaching Depot have been converted to operate on both fuels.
- Under the dual-fuel system, LNG can replace up to around **40% of diesel consumption**, helping reduce **fuel use, costs and emissions** such as carbon dioxide, nitrogen oxides and particulate matter.

Liquefied Natural Gas (LNG)

- Liquefied Natural Gas (LNG) is natural gas, primarily methane, cooled to around **minus 162°C** until it becomes a liquid. In liquid form, its volume is about **600 times smaller** than in its gaseous state, making it easier to store and transport.
- India imports roughly **half of its natural gas requirement as LNG**, with **Qatar** alone accounting for nearly half of the country's LNG imports.
- The **United States** is the **world's largest LNG exporter**, while **China** is the **largest importer**.

Do you know?

- Indian Railways used around **293 crore litres** of diesel in **2015–16** and has set a broader target of eliminating diesel use in its operations by **2030**.
- The potential of LNG also extends beyond railways. It is emerging as an alternative fuel for **long-haul trucks**, where it can offer a significant cost advantage over diesel.

Source: IE

AMOEBAS SURVIVES HEAT BEYOND COMPLEX LIFE'S LIMITS

Context

- NASA-supported scientists have discovered an organism that **lives at extreme temperatures previously thought impossible for complex life**.

About

- The study found **Incandiamoeba cascadenensis**, or the **"fire amoeba"**, reproducing by cell division at 145 degrees Fahrenheit (63 degrees Celsius) in the heated waters of California's Lassen Volcanic National Park.
 - It has set a record for the **upper temperature limit for all known eukaryotes**.
 - Eukaryotes have complex cells** containing a nucleus and membrane-bound organelles, which are **vulnerable to extreme heat**.
- The discovery could **broaden scientists' understanding of where complex life might survive on Earth and beyond**.

Prokaryotic and Eukaryotic Cells

- The cell is the basic unit of life and forms the building blocks of all living organisms. It was discovered by **Robert Hooke in 1665**.
 - Some cells have **membrane-bound organelles** and some do not. Depending upon the internal structure of the cell, two types of cells are found in an organism namely **Eukaryotic and Prokaryotic**.
 - Prokaryotic cells are **simpler and smaller in size**, while eukaryotic cells are **more complex and larger**.

Source: NASA

INDIA'S FIRST PORT-BASED E-METHANOL PRODUCTION FACILITY TO SUPPLY GREEN FUEL

In News

- India has taken a major step towards becoming a global supplier of green maritime fuel with the foundation stone laid for the **country's first port-based e-methanol production** facility at **Deendayal Port Authority (DPA) in Kandla, Gujarat**.

What is e-methanol?

- Methanol is a **simple liquid fuel** that ships can burn. It is called **"green" or "e-methanol"** depending on how it is made.
 - Renewable electricity splits water into **hydrogen (green hydrogen)**.
 - That hydrogen is combined with captured carbon dioxide. Here the CO₂ is biogenic,

meaning it comes from biological sources such as biomass, so burning the fuel does not add fresh fossil carbon to the atmosphere.

- The result is methanol that can run in ship engines **built for methanol**.

Significance

- **Shipping decarbonisation:** Shipping emits a large amount of greenhouse gas. The International Maritime Organization (IMO) has set a goal of net-zero emissions from international shipping by or around 2050.
- **India as a fuel supplier:** The project positions India as an exporter of green fuel to global shipping.
- **Link to national goals:** The project supports the Net Zero by 2070 commitment and the Atmanirbhar Bharat mission. It also fits the National Green Hydrogen Mission, the Green Tug Transition Programme and the Maritime Amrit Kaal Vision 2047.

Source :DD

DIGITAL CONNECTIVITY RATING (DCR) PLATFORM

Context

- The Telecom Regulatory Authority of India (TRAI) launched the **Digital Connectivity Rating (DCR) Platform**.

About the DCR Platform

- It is an **integrated digital system** aimed at enabling consumers to view the **digital connectivity ratings of properties** and facilitating the end-to-end rating process.
- The platform also includes a **mobile application** for testing digital connectivity.
- It brings **Property Managers (PMs), registered Digital Connectivity Rating Agencies (DCRAs) and consumers** onto a common digital interface.
- **Property Managers** can register properties under categories such as **public, government, commercial and private**, submit rating applications, upload prescribed information and documents, select a registered DCRA and track the status of applications through the platform.

- The platform supports the prescribed assessment workflow for both constructed and under-construction properties.
- **Significance: For consumers**, the platform provides a public rating search page where properties can be searched by name, certificate ID or location.
 - The platform establishes a transparent and standardised framework for assessing the digital connectivity readiness of properties.
 - By making ratings publicly searchable and verifying the certificates, the platform will empower consumers with credible and comparable information.

Telecom Regulatory Authority of India (TRAI)

- **Established:** 1997 under the Telecom Regulatory Authority of India Act, 1997.
- **Ministry:** Ministry of Communications.
- **Aim:** To regulate telecom services, including fixation/revision of tariffs for telecom services which were earlier vested in the Central Government.
- One of the main objectives of TRAI is to provide a **fair and transparent policy environment** which promotes a level playing field and facilitates fair competition.

Source: DD

UN DECLARATION ON SEA-LEVEL RISE

Context

- India welcomed the UN Declaration on Sea-Level Rise 2026, which highlighted the need for equity, climate justice and legal certainty for vulnerable island and coastal States at the 81st UN General Assembly.

About

- **The UN Declaration on Sea-Level Rise**, adopted by the UN General Assembly by consensus in 2026, is the **first UN-wide political framework** specifically addressing the legal, humanitarian and developmental consequences of rising sea levels.

- **Background:** The process for the UN Declaration on Sea-Level Rise began with **UN General Assembly Decision 78/558 in 2024**, which called for a high-level meeting on the issue and an action-orientated declaration negotiated by consensus.
 - **The 2026 high-level meeting** subsequently led to the adoption of the Declaration.
 - **Nearly 900 million people** currently live in low-lying coastal zones, while more than one billion people could face **coastal hazards by 2050**, highlighting the scale of the challenge.
- Source: BL**
-

