

17/07/2026 Daily Current News

1. *Rath Yatra:*

Context: The Prime Minister, Shri Narendra Modi, extended greetings to everyone on the sacred occasion of Rath Yatra. Shri Modi remarked that Rath Yatra is a radiant expression of India's timeless spiritual and cultural heritage, and embodies humility, collective participation and selfless service.

About Rath Yatra:

- ❖ The Rath Yatra, also known as the Chariot Festival, is a grand Hindu festival that takes place annually in Puri, Odisha, India.
- ❖ The festival dates back to at least the 12th century CE, when the Jagannath temple was built by King Anantavarman Chodaganga Deva.
- ❖ It is considered the oldest and largest chariot festival in the world.
- ❖ The festival is associated with the deity Jagannath, a form of Vishnu or Krishna.
- ❖ The three main deities involved are: Lord Jagannath, his brother-Balabhadra, his sister-Subhadra.
- ❖ The festival takes place on the chariot procession day, which falls on the second day of the bright fortnight of Ashadha (June or July in the Gregorian calendar).
- ❖ The three deities are taken in grand chariots to the Gundicha Temple, located about 3 kilometers from the main Jagannath Temple in Puri.
- ❖ The festival concludes nine days later, when the deities return to the Jagannath Temple in another procession.

About Jagannath Puri Temple:

- ❖ The Jagannath Temple in Puri, Odisha, India is a Hindu temple dedicated to Jagannath, a form of Vishnu.
- ❖ This temple is known as the "White Pagoda" and is a part of Char Dham pilgrimages (Badrinath, Dwaraka, Puri, Rameswaram).
- ❖ The temple is a colossal structure built in the Kalinga style of architecture.
- ❖ It is enclosed by a high wall with four intricately carved gates.

2. *REWARD program:*

Context: The National Rainfed Area Authority (NRAA), as a knowledge partner of Department of Land Resources (DoLR) organised a brainstorming workshop on "Satellite and Drone-based Survey for Watershed Planning & Monitoring" under the World Bank assisted REWARD program (Rejuvenating Watersheds for Agricultural Resilience through innovative Development) in Jaipur, Rajasthan

About REWARD program:

- ❖ REWARD stands for Rejuvenating Watersheds for Agricultural Resilience through Innovative Development.
- ❖ It is a watershed development programme implemented in the States of Karnataka and Odisha.
- ❖ The programme is being implemented during the 2021–2026 period.

- ❖ It aims to introduce modern and science-based watershed management practices in the Department of Land Resources and the participating States.
- ❖ The programme is assisted by the World Bank.
- ❖ It follows the Program for Results (PforR) financing model, under which the World Bank reimburses funds based on the achievement of Disbursement Linked Indicators (DLIs).
- ❖ Its main objective is to strengthen national and state institutions, enhance farmers' climate resilience, and support value chains in selected watersheds.
- ❖ The programme focuses on two key result areas: (i) strengthening institutions and policy support for watershed development, and (ii) science-based watershed development for climate resilience and improved livelihoods.

3. *INS Malvan:*

Context: The Indian Navy will commission Malvan, the second of the Mahe-class Anti-Submarine Warfare Shallow Water Craft (ASW-SWC) on 22 July 26.

About INS Malvan:

- ❖ Built at Cochin Shipyard Limited (CSL), Kochi, Malvan epitomises India's Aatmanirbhar Bharat vision in modern naval shipbuilding and design.
- ❖ With over 80 percent indigenous content, the ship exemplifies India's growing mastery in warship design, construction and integration.
- ❖ INS Malwan is the second of eight Anti-Submarine Warfare Shallow Water Craft (ASW SWC) being built by Cochin Shipyard Limited (CSL), Kochi for the Indian Navy.
- ❖ It is indigenously designed and constructed by Cochin Shipyard Limited, strengthening India's indigenous shipbuilding capabilities.
- ❖ The ship is named after the historic coastal town of Malwan in Maharashtra and carries forward the legacy of the erstwhile INS Malwan, a minesweeper that served until 2003.
- ❖ It has a displacement of about 1,100 tonnes and is waterjet-propelled, enabling efficient operations in shallow coastal waters.
- ❖ It is armed with torpedoes, multi-functional anti-submarine rockets, and advanced radar and sonar systems for submarine detection and engagement.
- ❖ The vessel is designed for underwater surveillance, Anti-Submarine Warfare (ASW) in coastal waters, and Low Intensity Maritime Operations (LIMO).
- ❖ Besides ASW roles, it also possesses mine warfare capabilities, enhancing the Indian Navy's coastal defence and maritime security.

4. *C-phycoerythrin:*

Context: Strengthening India's capabilities in biotechnology-based sustainable manufacturing, the Technology Development Board (TDB), under the Department of Science & Technology (DST), Government of India, has extended financial assistance to M/s K. N. Biosciences (India) Private Limited, Hyderabad, for the project titled "Production of C-Phycocyanin using *Spirulina* sp. as a Cell Factory."

About C-phycoerythrin:

- ❖ C-Phycocyanin is a blue-coloured natural pigment-protein belonging to the phycobiliprotein family.
- ❖ It is primarily obtained from cyanobacteria (blue-green algae), especially *Spirulina* (*Arthrospira*).
- ❖ It acts as an accessory photosynthetic pigment, absorbing light and transferring energy to chlorophyll-a during photosynthesis.
- ❖ It is water-soluble, making it suitable as a natural blue food colourant.
- ❖ It possesses strong antioxidant, anti-inflammatory, and immunomodulatory properties.
- ❖ It is widely used in the food, pharmaceutical, nutraceutical, and cosmetic industries.
- ❖ It also serves as a fluorescent biomarker in biotechnology and biomedical research due to its fluorescent properties.
- ❖ C-Phycocyanin is considered a safe and eco-friendly alternative to synthetic blue dyes.
- ❖ It has growing commercial importance because of increasing demand for natural colourants and health-promoting bioactive compounds.
- ❖ Developed by IIT Guwahati, the technology uses an indigenous *Spirulina* strain (NCIM 5143) and has been transferred to industry through a Transfer of Technology (ToT) agreement for commercial production.
- ❖ It integrates optimized photoautotrophic cultivation with a green, solvent-free extraction and single-step purification process to produce high-purity C-phycoerythrin.
- ❖ The process minimizes the use of chemicals, reduces processing complexity, and lowers environmental impact while producing food-grade and analytical-grade C-phycoerythrin.
- ❖ The final product is a stable, water-soluble blue powder, benchmarked against international commercial standards and suitable for multiple industrial applications.
- ❖ The technology promotes bioeconomy, sustainable manufacturing, clean-label products, and Aatmanirbhar Bharat, while meeting the rising global demand for natural food ingredients.

5. *Project INROAD:*

Context: Project INROAD, or Indian Natural Rubber Operations for Assisted Development, is a plantation expansion initiative for natural rubber in North-East India and West Bengal. By 15-16 July 2026, the project had created 1.8 lakh hectares of new rubber plantations against a target of 2 lakh hectares across 113 districts.

About Project INROAD:

- ❖ Project INROAD was launched in 2021–22 with an estimated outlay of ₹1,100 crore to promote rubber cultivation.
- ❖ It is implemented by the Rubber Board of India with financial support from Apollo Tyres, CEAT, JK Tyre, and MRF through the Automotive Tyre Manufacturers' Association (ATMA).
- ❖ The project focuses on plantation development, supply of quality planting material, and farmer support in rubber-growing regions.
- ❖ Over 2 lakh beneficiaries, mainly small farmers, have received more than 8.3 crore high-quality planting materials under the programme.
- ❖ It promotes cultivation of natural rubber, obtained from the latex of *Hevea brasiliensis*.

- ❖ The North-East region has emerged as a major rubber-growing area due to its favourable rainfall, humidity, and temperature.
- ❖ More than 200 nurseries have been developed to supply improved rubber clones and replace low-yielding plantations.
- ❖ The project covers 113 districts across North-East India and West Bengal and has achieved nearly 90% of its plantation target.
- ❖ Its next phase, iSPEED (INROAD Skilling and Production Efficiency Enhancement Drive), with an outlay of ₹145 crore, aims to improve latex quality and productivity through model smokehouses, post-harvest infrastructure, and farmer training.

6. *Cyclospora cayetanensis*:

Context: Cyclospora Outbreak Sickens Thousands Across United States.

About *Cyclospora cayetanensis*:

- ❖ Cyclospora (*Cyclospora cayetanensis*) is a microscopic protozoan parasite that infects the small intestine.
- ❖ It causes cyclosporiasis, a foodborne intestinal disease.
- ❖ Infection spreads through contaminated food or water, especially fresh produce, containing oocysts.
- ❖ Common symptoms include watery diarrhoea, abdominal cramps, nausea, loss of appetite, weight loss, and fatigue.
- ❖ Without treatment, the illness may persist for several days to weeks.

7. *Corporate Average Fuel Efficiency-3 (CAFE-3) norms*:

Context: The Centre on Thursday released the third draft of the fuel efficiency norms for passenger vehicles set to kick off from April 2027, proposing to recognise ethanol, compressed biogas (CBG) and other biofuels in compliance calculations by allowing manufacturers to claim specified reductions in declared tailpipe carbon dioxide emissions. For cars which are below the industry average weight of 1,229 kg also, targets will be easier. The fleet wide emission targets have been relaxed by about 21% compared to the original proposal of last year. Manufacturers will be required to progressively improve the fuel efficiency of their fleets. The target fuel consumption is proposed to be tightened from 3.996 litre per 100 km (94.76 gCO₂/km) in 2027-28 to 3.327 litres per 100 km (78.90 gCO₂/km) by 2031-32.

About Corporate Average Fuel Efficiency-3 (CAFE-3) norms:

- ❖ Corporate Average Fuel Economy (CAFE) regulations aim to improve fuel efficiency and reduce carbon emissions from vehicles.
- ❖ Global Presence: CAFE norms are implemented in many developed and developing countries, including India.
- ❖ Objective: Reduce fuel consumption and CO₂ emissions, thereby lowering oil dependence and controlling pollution.
- ❖ Meaning of Corporate Average: Refers to the sales-volume weighted average emissions of vehicles produced by each manufacturer.
- ❖ Applicability: Covers petrol, diesel, LPG and CNG passenger vehicles.

- ❖ Implementation in India: Came into force from April 1, 2017.
- ❖ Emission Targets: Average corporate CO₂ emissions must be below 130 g/km till 2022 and below 113 g/km thereafter.
- ❖ Comparison with BS6: CAFE focuses mainly on CO_x emissions, while BS6 regulates overall emissions including NO_x and SO_x.
- ❖ Environmental Impact: Reduction in CO_x emissions lowers carbon footprint and improves fuel economy.

Quick Bites:

- ☐ Union Minister for Consumer Affairs, Food and Public Distribution, and New and Renewable Energy, Shri Pralhad Joshi, inaugurated the 'White Rabbit Technology'-based 'Indian Standard Time (IST) - Distribution Demonstration Network' today at the Regional Reference Standards Laboratory (RRSL) in Jakkur, Bengaluru. White Rabbit (WR) is a high-precision time synchronization technology that enables computers, instruments, and communication networks to maintain the same time with sub-nanosecond (less than one billionth of a second) accuracy over optical fibre networks.
- ☐ The Indian Navy will host Operation Southern Readiness 26-2 at the Southern Naval Command, Kochi, from 20 to 23 Jul 2026. The four-day multinational training engagement will be conducted in partnership with the Combined Maritime Forces (CMF) under the aegis of the Indian Navy-led Combined Task Force 154 (CTF 154), CMF's dedicated Training Task Force.
- ☐ Union Minister Dr. Jitendra Singh today announced the introduction of India's first Engineering Biology graduation course, describing it as a significant step towards building an independent and sovereign biotechnology ecosystem capable of supporting the country's long-term scientific, healthcare and economic aspirations.
- ☐ Jharkhand received Geographical Indication tags for four traditional products in June 2026: Bhagaiya Silk, Kuchai Silk, Munda Jewellery, and Jharkhand Bamboo Craft.
- ☐ Agnikul Cosmos is preparing Mission 02, which is planned as India's first private-sector attempt at orbital-class rocket reusability. The mission involves the Agnibaan rocket, a launch vehicle developed for small satellite missions, and a first-stage booster recovery attempt through controlled descent and ocean recovery.
- ☐ NITI Aayog has released the "Roadmap for Building India as a Leading Bioeconomy Powerhouse by 2035," proposing a ₹50,000-crore BioEconomy Growth Fund, a dedicated PLI scheme for biomanufacturing, and six National Biotechnology Missions. Building on the BioE3 Policy, the roadmap advocates mission-mode implementation with financing, regulatory, and governance reforms to expand India's bioeconomy from \$195.3 billion in 2025 to \$691 billion by 2035 and \$2.6 trillion by 2047, while creating over 30 million high-value jobs.

INDIA'S FIRST INDIGENOUS HYDROGEN-POWERED TRAIN
A NEW ERA OF CLEAN & SUSTAINABLE TRANSPORTATION

INAUGURATED ON 17 JULY 2026

ATMANIRBHAR BHARAT
Designed and developed entirely in India in accordance with RDSO design approval and technical specifications.

SET TO BEGIN OPERATIONS ON JIND – SONIPAT SECTION NORTHERN RAILWAY

Indian Railways is entering a new era of clean and sustainable transportation. India's first indigenous hydrogen-powered train marks an important step in adopting next-generation technology.

It is a locomotive that generates its own electricity onboard using hydrogen. The project combines advanced propulsion technology with dedicated hydrogen storage, refuelling and operational infrastructure.

Developed as a pilot initiative, the project reflects Indian Railways' commitment to innovation and advances energy efficiency and environmentally responsible transportation.

KEY FEATURES OF THE HYDROGEN POWERED TRAIN ON JIND–SONIPAT SECTION

- 10-car hydrogen fuel cell-based trainset.
- Powered by a 1200 kW hydrogen fuel cell propulsion system.
- Approved to operate at a maximum speed of 75 kmph with a design speed of 110 kmph.
- Capacity of around 2,600 passengers.
- Developed from the design stage through prototype manufacturing.
- It will connect Jind Junction, Gohana Junction and Sonipat while serving intermediate stations.
- Stops include stations and proposed halts as shown in the route map.

ROUTE: JIND – SONIPAT SECTION

Connects Jind Junction, Gohana Junction & Sonipat

Jind City, Pehwa-Pehawa Junction, Lohi Khera Halt, Bhambhwa, Isapur Kheri Halt, Budana Halt, Khairana Halt, Rabaali Halt, Lohi Halt, Mohana, Baranvi Halt

HOW HYDROGEN FUEL CELL TECHNOLOGY WORKS

HYDROGEN (H₂) + OXYGEN (O₂) → ELECTRICITY (For Traction) + WATER VAPOUR & HEAT (Byproducts)

FUEL CELL (PEMFC)

- Electricity is generated by reacting hydrogen and oxygen across a proton-conducting PFSA polymer membrane.
- The process produces only water vapour and heat as byproducts.
- Hydrogen has a high energy content of 120 MJ/kg (vs. 43 MJ/kg for diesel fuel).
- Low maintenance, low carbon footprint – the cleanest propulsion technology for rail transport.

HYDROGEN INFRASTRUCTURE

JIND HYDROGEN STORAGE & REFUELLING FACILITY

- Country's largest railway hydrogen storage and refuelling facility established at Jind, Haryana.
- Stores nearly 3,000 kg of hydrogen at a time to support train operations.
- PESO licensed facility for storage and dispensing of compressed hydrogen gas.
- Designed as per internationally accepted standards: NFPA-2 and ISO 19880 Series.

Entire system assessed by independent third party TÜV SÜD, Germany – a global leader in technical inspection & certification.

FACILITY EQUIPPED WITH

- Hydrogen compression system for refuelling operations
- Technical support and critical spares for reliability
- Standby compressor to ensure uninterrupted refuelling
- Integrated infrastructure for safe and efficient operations

BENEFITS OF HYDROGEN-POWERED TRAINS

- Zero emissions (only water vapour as byproduct)
- Energy efficient and environmentally friendly
- Independence from foreign energy sources like diesel & imported tech
- Enhanced energy security and reduced operational costs
- Supports India's vision for Atmanirbhar Bharat and Net Zero goals
- A step towards a cleaner, greener and sustainable railway future

INNOVATION TODAY, SUSTAINABLE TOMORROW, GREENER FUTURE FOR INDIA!

Practice questions:

Objective questions:

Operation Southern Readiness 26-2, recently seen in the news, is associated with:

- Multinational maritime training exercise
- Air defence missile exercise
- Counter-terrorism exercise on land
- Space surveillance mission

With reference to the REWARD Programme, consider the following statements:

- The programme is being implemented during 2021–2026.
- One of its objectives is to enhance farmers' climate resilience.
- It is implemented by the Ministry of Agriculture and Farmers Welfare.

Which of the statements given above are correct?

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

With reference to Project INROAD, consider the following statements:

1. It was launched to promote natural rubber cultivation in North-East India and West Bengal.
2. It is implemented by the Rubber Board of India.
3. The project is financially supported by the Automotive Tyre Manufacturers' Association (ATMA) through major tyre manufacturers.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

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