

Current Affairs - 15 March 2026

ESSENTIAL COMMODITIES ACT

- The Essential Commodities Act, 1955 empowers the Union government to **regulate** the production, supply, and distribution of **essential goods** such as foodstuffs, edible oils, fertilizers, drugs, fuels, and seeds.
- Under **Section 3** of the Act, the government can take measures to ensure adequate supply and fair prices of essential commodities.
- These include setting price controls and stock limits, regulating storage, transport, and distribution, prioritising production, and preventing hoarding and black marketing.
- The Act has been used in the past to address shortages of commodities such as wheat, sugar, and pulses, and was also **invoked during the COVID-19 lockdown** to curb hoarding, black marketing, and profiteering of essential goods.

Why the Essential Commodities Act Was Invoked?

- **Impact of West Asia Conflict on Energy Supplies** - The ongoing conflict in West Asia, including attacks near the Strait of Hormuz, has disrupted maritime trade routes. This chokepoint handles a significant share of global energy shipments, affecting India's energy imports.
- **Panic Over LPG Supply** - While a large portion of global oil passes through the Strait of Hormuz, the immediate concern for India has been the disruption of Liquefied Petroleum Gas (LPG) supplies, leading to fears of shortages among consumers.
- **Rising Domestic Demand for LPG** - Government schemes such as the **Pradhan Mantri Ujjwala Yojana** expanded LPG coverage from about 62% of households in 2016 to nearly universal coverage today, significantly increasing national demand.
- **Dependence on LPG Imports** - India's domestic LPG production has not matched consumption. In 2024–25, refineries produced **12.8 million tonnes**, covering only 41% of the total demand of 31.3 million tonnes, with around 90% of imports passing through the Strait of Hormuz.

Government Measures to Increase Domestic LPG Production

- **Directive to Refineries** - The government ordered oil refineries to divert propane and butane streams to LPG production, instead of using them for petrochemical manufacturing, to boost domestic cooking gas supply.
- **Increase in Domestic LPG Output** - According to the government, the measure has raised domestic LPG production by about 25%, although a significant portion of demand still needs to be met through imports.
- **Prioritisation of Household LPG Supply** - All LPG produced under the order must be supplied to IOCL, BPCL, and HPCL, which have been instructed to prioritise domestic household consumption. As a result, reduced supply to commercial users has affected restaurants, hotels, and hostels, forcing some to limit operations.

Regulation of Natural Gas Supply Under the Government Order

- The government's order introduces a priority-based allocation system for natural gas, overriding existing supply contracts to ensure essential sectors receive adequate gas during supply disruptions.
- **Top Priority Sectors** - Highest priority is given to piped natural gas for households, compressed natural gas for transport, LPG production, and pipeline compressor fuel.
 - These sectors will receive 100% of their average consumption over the past six months, subject to availability.
- **Supply Allocation for Fertiliser Sector** - Fertiliser manufacturers will receive around 70% of their normal gas requirement, though allocations may be adjusted if disruptions continue and agricultural demand increases during the kharif sowing season.
- **Reduced Supply for Other Industries** - Gas supplies to tea, manufacturing, and other industrial sectors have been limited to 80% of their usual demand, while oil refineries will receive only about 65% of their regular gas allocation.
- **Curtailment for Petrochemical Facilities** - Some petrochemical plants operated by ONGC, GAIL, and Reliance may face partial or complete LNG supply cuts under the revised allocation framework.

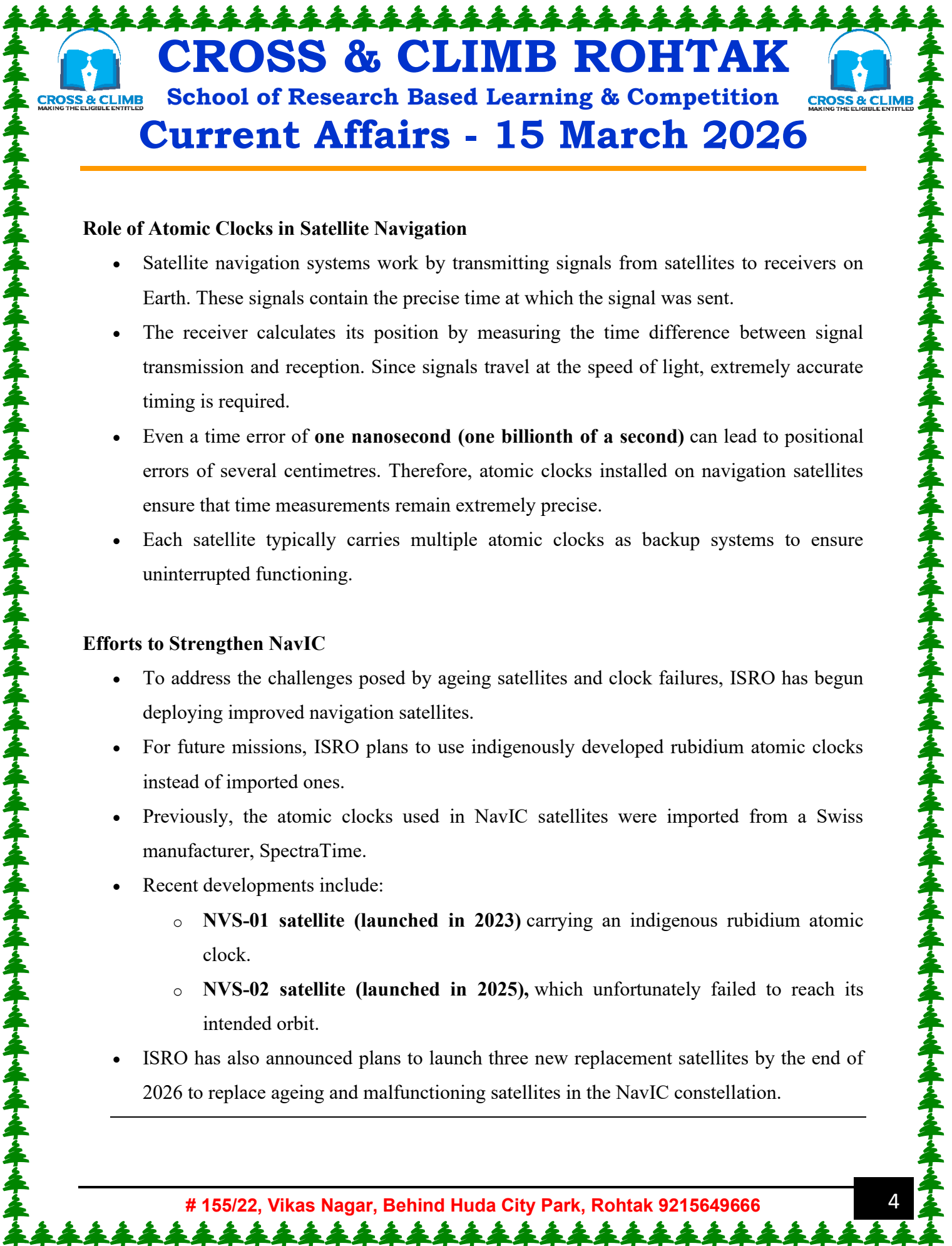
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ATOMIC CLOCK AND INDIA'S NAVIC SYSTEM

- An atomic clock is a highly precise timekeeping device that measures time using the natural oscillations of atoms, typically caesium or rubidium atoms.
- Unlike traditional clocks that rely on mechanical or electronic oscillators, **atomic clocks operate based on the consistent frequency of atomic transitions.**
- In an atomic clock, atoms are exposed to microwave radiation. The radiation causes the atoms to transition between energy states at a precise frequency. This frequency is used to measure time with extraordinary accuracy.
- Atomic clocks are the most accurate clocks ever developed. Modern atomic clocks can measure time so precisely that they would lose or gain less than a second over millions of years.

Importance of Atomic Clocks

- Atomic clocks play a critical role in several modern technologies and scientific applications.
- **Satellite Navigation Systems:** Global navigation systems such as GPS (United States), GLONASS (Russia), Galileo (European Union), and BeiDou (China) rely on atomic clocks to determine accurate positioning.
- **Precise Timekeeping:** Atomic clocks define the international standard of time known as **Coordinated Universal Time (UTC)**.
- **Telecommunication Networks:** Accurate time synchronisation is essential for mobile networks, internet communication, and financial transactions.
- **Scientific Research:** Atomic clocks are used in space science, physics experiments, and deep-space navigation.
- Because satellite navigation depends on measuring the time taken for signals to travel from satellites to receivers, even a tiny error in time can translate into large positional errors. Therefore, atomic clocks are essential for maintaining accurate navigation services.



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Role of Atomic Clocks in Satellite Navigation

- Satellite navigation systems work by transmitting signals from satellites to receivers on Earth. These signals contain the precise time at which the signal was sent.
- The receiver calculates its position by measuring the time difference between signal transmission and reception. Since signals travel at the speed of light, extremely accurate timing is required.
- Even a time error of **one nanosecond (one billionth of a second)** can lead to positional errors of several centimetres. Therefore, atomic clocks installed on navigation satellites ensure that time measurements remain extremely precise.
- Each satellite typically carries multiple atomic clocks as backup systems to ensure uninterrupted functioning.

Efforts to Strengthen NavIC

- To address the challenges posed by ageing satellites and clock failures, ISRO has begun deploying improved navigation satellites.
 - For future missions, ISRO plans to use indigenously developed rubidium atomic clocks instead of imported ones.
 - Previously, the atomic clocks used in NavIC satellites were imported from a Swiss manufacturer, SpectraTime.
 - Recent developments include:
 - NVS-01 satellite (launched in 2023) carrying an indigenous rubidium atomic clock.
 - NVS-02 satellite (launched in 2025), which unfortunately failed to reach its intended orbit.
 - ISRO has also announced plans to launch three new replacement satellites by the end of 2026 to replace ageing and malfunctioning satellites in the NavIC constellation.
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PASSIVE EUTHANASIA AND THE RIGHT TO DIE WITH DIGNITY

- Recently, the Supreme Court of India permitted the withdrawal of life support for Harish Rana, a 32-year-old patient who had remained in a persistent vegetative state for nearly 13 years after an accident.
- The Bench comprising Justice J.B. Pardiwala and Justice K.V. Viswanathan ruled that continuing treatment was futile and not in the patient's best interest.
- The judgment reaffirmed that the right to life under **Article 21** of the Constitution includes the right to die with dignity, marking India's **first** judicial approval of passive euthanasia in such a case.

What is Passive Euthanasia?

- Euthanasia is the intentional, painless termination of a patient's life—often called "mercy killing"—to end severe, incurable suffering. Traditionally, it has been classified into two forms -
 - **Active** [Illegal in India, it involves direct intervention to cause death (e.g., administering a lethal injection).
 - **Passive** (Involves withdrawing or withholding life-sustaining treatment, such as ventilators or artificial nutrition).
- **SC's clarification:**
 - The Court clarified that the earlier "act vs omission" distinction is simplistic and misleading.
 - Active euthanasia introduces a new external agent of harm, while withdrawal of life support merely removes an artificial barrier to death, allowing the natural course of life to conclude.
 - Thus, withdrawing life-sustaining treatment does not create a new risk of death but allows the inevitable to occur.
 - The Court also observed that the term "passive euthanasia" is **outdated** and should instead be referred to as "withdrawing or withholding medical treatment."

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Right to Die with Dignity under Article 21:

- The Court reaffirmed that **Article 21** (Right to Life) encompasses the right to die with dignity, especially in cases involving **irreversible medical conditions**.
- The Court emphasised that human dignity extends beyond mere biological survival.

Challenges and Concerns:

- **Absence of a comprehensive law:** Despite judicial guidelines, India still lacks a statutory framework governing end-of-life decisions.
- **Ethical and moral dilemmas:** Balancing sanctity of life vs dignity of death remains controversial.
- **Risk of misuse:** Concerns exist about coercion by families or medical negligence.
- **Procedural complexity:** Implementation of medical boards and legal safeguards may delay decisions.
- **Limited awareness:** Low public awareness about living wills and AMDs.

Way Forward:

- **Enact a comprehensive end-of-life care law:** Parliament should legislate on withdrawal of medical treatment and living wills.
- **Strengthen safeguards:** Mandatory multi-disciplinary medical boards, transparent documentation.
- **Promote AMDs:** Encourage citizens to prepare living wills to guide medical decisions.
- **Improve palliative care:** Expand palliative and hospice care services to ensure dignified end-of-life care.
- **Ethical guidelines for hospitals:** Clear medical ethics protocols should guide doctors in terminal care decisions.

Conclusion:

- The SC's ruling marks an important step in aligning medical ethics with constitutional values of **dignity and autonomy**. By recognising that the right to life includes the right to die with dignity, the Court has clarified the **legal status** of withdrawing life support in cases of irreversible medical conditions.



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SUJAL GAON ID



- It is a **scheme-based unique digital identifier** that enables **complete digital mapping of rural piped water supply assets**.
- The Sujal Gaon IDs across 31 States/ UTs have been created and linked to **Sujalam Bharat IDs**.
- Each **Sujalam Bharat ID** integrates the scheme's **infrastructure ID and service area ID**, creating a comprehensive digital footprint of rural water service delivery.
- It is linked with the “**Sujalam Bharat**” **national digital architecture** which will provide source to tap mapping of the entire rural water supply chain through unique Sujal Gaon IDs/ Service Area ID for every village.
- It was launched by the **Ministry of Jal Shakti** under **Jal Jeevan Mission**.

Key Facts about Jal Jeevan Mission

- It was **launched in 2019**.
- JJM is envisioned to provide safe and adequate drinking water through individual **Functional Household Tap Connections (FHTCs)** by 2024 to all households in rural India.
- It is **based on a community approach** to water and will include extensive Information, Education and communication as key components of the mission.

Nodal Ministry: Ministry of Jal Shakti.

Funding Pattern for Jal Jeevan Mission

- **50:50** between Centre and States
- **90:10** for Himalayan and North-Eastern States
- In case of UTs, **100% of the funding** is provided by the Central government.



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NATIONAL CHAMBAL SANCTUARY



- **Location:** It lies at the **tri-junction** of three states **Madhya Pradesh, Uttar Pradesh and Rajasthan.**
- **Other name:** It is also called the **National Chambal Gharial Wildlife Sanctuary.**
- It is a tri-state protected riverine sanctuary along **Chambal River and ravines.**
- The main focus of the sanctuary is to protect the critically endangered Gharial, Red-crowned roof turtle & endangered Ganges dolphin.
- It supports the largest **population of Gharials in the wild.**
- It is listed as an **important bird area (IBA).**
- **Topography:** The topography is full of **ravines, hills & sandy beaches.**
- **Vegetation:** It is part of the **Kathiar-Gir dry deciduous forest ecoregion.**
- **Fauna:** It is home to **mugger** crocodile, smooth-coated otters, Striped Hyena & Indian wolfs are also found here.
 - It also supports Indian narrow-headed **soft shell turtle, three- striped roof turtle & crowned river turtle.**

NEW MOTH SPECIES



Scientists have discovered two brand-new species of moths named **Eudemopsis hunliensis** and **Eudemopsis gobuka** in the lush, remote forests of Northeast India.

Eudemopsis hunliensis and **Eudemopsis gobuka:**

- They are **two new species of moths.**
- They were discovered in the remote forests of the Upper Siang and Lower Dibang Valley districts of **Arunachal Pradesh.**
- The findings expand the known range of the **genus Eudemopsis**, a **group of micromoths** previously thought to live only in **East Asian countries** such as China, Japan, Vietnam.

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- **hunliensis** is distinguished by its **distinct brownish-purple scales on its head** and a unique pitcher-shaped structure in the male anatomy.
- **E. gobuka** features **dark grey hindwings** and a **distinctive subrectangular patch on its forewings**, which separates it from its closest relatives in Vietnam.
- The names of the new moths pay direct tribute to the land where they were first found.
 - The name **hunliensis** is derived from the **town of Hunli** in the **Lower Dibang Valley**.
 - Similarly, **gobuka** is named after the **village of Gobuk** in the **Upper Siang district**.

KEY FACTS ABOUT DEEPOR BEEL



Deepor Beel

- It is a **permanent freshwater lake** in in Assam.
- It lies in a **former channel of the Brahmaputra River**.
- **Beel** is an **Assamese local word** which means 'lake', and the name **Deepor Beel** means the 'lake of elephants'.
- It is considered **one of the biggest lakes of the Brahmaputra Valley of Lower Assam**.
- It is surrounded by steep highlands on the northern and southern sides, and its **main sources of water** are the **Kalmani and Basistha Rivers**.
- It is the **only major stormwater storage basin** for the city of **Guwahati**.
- The **lake's outflow** is the **Khandajan rivulet**, which **joins the Brahmaputra**.
- It is recognised as a **Ramsar Site** and as an **Important Bird and Biodiversity Area (IBA)**. It is the **only Ramsar site in Assam**.
- This lake is a **staging site on migratory flyways**, and some of the largest concentrations of aquatic birds in Assam can be seen, especially in winter.
- Some **globally threatened birds** are supported, including **Spot-billed Pelican, Lesser Greater Adjutant Stork, and Baer's Pochard**.
- The **Rani and Garbhanga hills**, the **habitat of the Asiatic elephants** on the southern side of the beel, are part of this ecosystem.