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Current Affairs - 25 January 2025

RAKHIGARHI



A reservoir unearthed recently in Haryana's Rakhigarhi is not just a marvel of Harappan engineering but also advances evolving research on the Saraswati River.

- It is an archaeological site located in Hisar district, **Haryana**, in the **Ghaggar-Hakra river plain**.
- It is **one of the oldest and largest cities** of the India's earliest known Bronze Age urban culture, the **Indus Valley or Harappan Civilization**.
- It is the **largest** Indus Valley site.
- The site was first discovered in the 1960s by the Archeological Survey of India.

Findings:

- The exploration around this site has clearly identified seven archaeological mounds spread over an area of approximately 350 ha.
- It primarily yields **evidence of occupation during the Early and Mature Harappan periods**, with the site being completely abandoned during the Late Harappan period.
- The archaeological excavations revealed the mature Harappan phase, represented by a **planned township with mud-brick** as well as **burnt-brick houses** with a **proper drainage system**.
- The **ceramic industry** is represented by red ware, which included dish-on-stand, vase, jar, bowl, beaker, perforated jar, goblet, and handis.
- **Animal sacrificial pits** lined with mud bricks and triangular and circular fire alters on the mud floor have also been excavated, that signifies the ritual system of the Harappans.



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- A **cylindrical seal** with five Harappan characters on one side and a symbol of an alligator on the other is an important find from this site.
- Other antiquities include blades; **terracotta and shell bangles**; beads of semi-precious stones, terracotta, shell and copper objects; animal figurines, toy cart frame and wheel of terracotta; bone points; inscribed steatite seals, and sealings.
- The excavations have yielded a few **extended burials**, which certainly belong to a very late stage, maybe the medieval times.
- It is also well-known as the site which has yielded the **only DNA evidence from the Harappan era**.

FISCAL HEALTH INDEX



Recently, the Chairman of the 16th Finance Commission launched the inaugural issue of NITI Aayog's report titled "Fiscal Health Index (FHI) 2025" in New Delhi.

- It provides a **comprehensive assessment of the fiscal health** of 18 major States of India.
- It is based on five key sub-indices: **Quality of Expenditure, Revenue Mobilisation, Fiscal Prudence, Debt Index and Debt Sustainability**, along with insights into state-specific challenges and areas for improvement.
- It aims to **throw light on the fiscal status** at the **sub-national level** and guide policy reforms for sustainable and resilient economic growth.
- It has been developed using **data from the Comptroller and Auditor General (CAG)**.

Key Highlights of the Report:

- With a cumulative score of 67.8, **Odisha tops** the ranking, followed by **Chhattisgarh** and **Goa** with scores of 55.2 and 53.6, respectively.
- The **achiever** States display strong fiscal health, excelling in revenue mobilization, expenditure management, and debt sustainability.



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- Improvements are seen in States like **Jharkhand**, which has **strengthened fiscal prudence and debt sustainability**, while Karnataka faces a decline due to weaker performance in expenditure quality and debt management.
- These interstate disparities highlight the **need for targeted reforms** to address specific fiscal challenges and ensure sustainable growth.
- Punjab, Andhra Pradesh, West Bengal and Kerala were the worst-performing States in the Fiscal Health Index (FHI), each facing significant fiscal challenges, and **listed under “aspirational” category**.
- It has listed Maharashtra, Uttar Pradesh, Telangana, Madhya Pradesh, Karnataka under the **“front-runners” category**.
- Tamil Nadu, Bihar, Rajasthan, and Haryana were **classified as performers**.

NVS-02 SATELLITE



navigation system.

India's space agency, Indian Space Research Organisation (ISRO), has rolled out its Geosynchronous Satellite Launch Vehicle (GSLV) rocket, carrying the NVS-02 satellite, as part of the NavIC

- It is the **second of the 5 second-generation satellites** developed by the space agency to replace the existing satellites in the country's navigation constellation **Indian Regional Navigation Satellite System**.
- It will be placed in a **Geosynchronous Transfer Orbit** by **GSLV-F15**.
 - **NVS-01** was launched on board **GSLV-F12 in 2023** and for the first time, an indigenous atomic clock was flown in NVS-01.

Features:

- It is of 2,250 kg and has a power capacity of around 3 kW.
- It is configured with navigation payload in **three frequency bands L1, L5 and S bands** in addition to ranging payload in C-band like its predecessor-NVS-01



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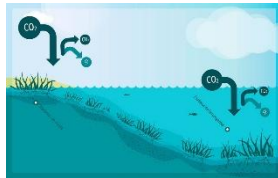
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- It also has a precise **atomic clock** called the **Rubidium Atomic Frequency Standard (RAFS)** for accurate timekeeping.
- It has a longer **lifespan of 12 years** and also equipped with indigenously developed, more accurate atomic clocks.
- It will replace an **older NavIC satellite, IRNSS-1E**, and be positioned at 111.75°E in orbit.
- It is designed, developed, and integrated at the **U R Satellite Centre (URSC)**.

Significance: By incorporating new L1 band signals, it improves NavIC's compatibility with global navigation systems, ensuring wider adoption and better service.

BLUE CARBON



Recent studies suggest that mangroves and coastal wetlands annually sequester carbon at a rate **10 times greater than mature tropical forests**.

- Blue Carbon is the carbon captured by the world's **ocean and coastal ecosystems**.
- The world's mangroves, sea grasses and salt marshes together comprise 'blue carbon ecosystems.' They are nature's most effective carbon sinks.
- Coastal ecosystems such as mangroves, tidal marshes and seagrass meadows **sequester and store more carbon per unit area** than terrestrial forests and are now being recognized for their role in mitigating climate change.
- Human activities are causing loss of coastal blue carbon ecosystems. Common drivers are **aquaculture, agriculture, mangrove forest exploitation, terrestrial and marine sources of pollution and industrial and urban coastal development**.
- These ecosystems provide essential benefits for climate change mitigation and adaptation, including coastal protection and food security for many coastal communities.



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WHAT IS THE DEEP OCEAN MISSION?



The Ministry of Earth Sciences recently announced that the country is set to launch its first human underwater submersible (Deep-Sea Manned Vehicle) as part of the Deep Ocean Mission.

- It is a mission-mode project to support the **Blue Economy Initiatives** of the Government of India.
- It is a high-level **multi-ministerial, multidisciplinary programme** for a better understanding of the **deep sea living and non-living resources of the Indian Ocean**.
- It was launched as a **Central Sector Scheme** with the overall estimated cost of Rs 4,077 crores for two phases of the Mission period during 2021-2026.
- The **Ministry of Earth Sciences (MoES)** is be the **nodal Ministry** implementing this multi-institutional mission.

The mission consists of **6 major components**:

- **Development of Technologies** for Deep Sea Mining and Manned Submersible and Underwater Robotics;
- **Development of Ocean Climate Change Advisory Services**;
- **Technological innovations** for exploration and conservation of deep-sea biodiversity;
- **Deep Ocean Survey** and Exploration;
- **Energy and freshwater from the Ocean**; and
- **Advanced Marine Station** for Ocean Biology
- The **Samudrayaan project** under the Deep Ocean Mission is for the **development of a manned submersible to carry three people to a depth of 6000 meters** in the ocean with a suite of scientific sensors for ocean exploration and observation. The **vehicle is called Matsya 6000**.

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USE OF LOUDSPEAKERS NOT ESSENTIAL PART OF RELIGION

Observing that the use of loudspeakers is not an essential part of any religion, Bombay high court directed the state to curb noise pollution by places of worship, irrespective of religion.

Essential Religious Practices (ERP) Doctrine

- It governs which religious practices are protected under Arts. 25 & 26 of the Constitution.

Overview

- The doctrine is a legal framework created by the Supreme Court to balance the competing interests of freedom of religion and the state's ability to regulate practices.
- It protects only those religious practices that are deemed essential to a particular religion.

• Key Features

- **Freedom of Religion:** The doctrine protects practices that are essential to a religion, under the freedom of religion provisions in the Indian Constitution.
- **State's Role in Social Reforms:** The doctrine allows the state to implement social reforms without infringing on essential religious practices.
- **Bifurcation of Practices:** It distinguishes between essential and non-essential religious practices, offering protection only to those considered essential.

• Historical Context

- **First Articulation:** The doctrine was first articulated in the 1954 case *The Commissioner Hindu Religious Endowments, Madras v. Sri Lakshmindra Thirtha Swamiar of Sri Shirur Mutt*.
- **Criticism:** The application of the doctrine has been criticized for being inconsistent and incoherent.

• Notable Examples

- **The Durgah Committee, Ajmer v. Syed Hussain Ali (1961):** The court ruled that only practices that are essential and integral to a religion are protected.



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- **Ismail Faruqui v. Union of India (1994):** The court ruled that a mosque is not an essential practice for the religion of Islam.

Bombay HC on Loudspeaker Use

- In a significant ruling, the Bombay High Court has declared that the use of loudspeakers is not an essential practice of any religion.

PLAINT AGAINST 9 MOSQUES & MADRASSAS	
<p>Noise Pollution Rules 2000 </p> <ul style="list-style-type: none"> > Areas within 100m of schools/colleges, religious structures, hospitals, courts silence zones > Noise level in silence zones cannot cross 50 decibels during the day & 40 at night; it is 55 & 45 for residential areas 	<p>The Plea Two Kurla residents' associations move HC over police inaction against loudspeaker use by 9 mosques and madrassas by 5am & past midnight</p> <ul style="list-style-type: none"> > HC says if a complaint is filed, police must first caution the offender, impose a fine for 2nd offence, then seize loudspeakers/amplifiers & cancel permit for use
<p>“ If one or more religious places are using loudspeakers, it is not the individual ambient air quality limit of 55 or 45 decibels but the cumulative sound level of all loudspeakers in use at a point of time –Bombay HC</p>	

• Court Observations

- Loudspeaker use is not an essential part of any religion and is not protected under Article 25 (freedom of religion).
- Noise pollution is a public health hazard and should be strictly controlled to safeguard citizens' rights.

- Law enforcement must ensure compliance with noise regulations and avoid being passive in such cases.

• Case Background

- Residents of Nehru Nagar, Kurla East, filed a plea citing noise pollution by religious places beyond permissible decibel limits and hours.
 - **Permissible limits:** 55 decibels (daytime) and 45 decibels (nighttime) in residential areas.
- Complaints to local police stations were ignored, leading to the petition in the Bombay High Court.

Key Directives

- Police must measure decibel levels using mobile applications and seize equipment violating noise norms.
- Initial violations should result in warnings; repeated offenses may lead to fines, equipment seizure, and license cancellation.
- Police must ensure complainant anonymity to prevent retaliation.



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SANJAY SURVEILLANCE SYSTEM



Recently, the Minister of Defence flagged-off 'SANJAY - The Battlefield Surveillance System (BSS)' from South Block, New Delhi.

- It is a battlefield **automated surveillance system** which **integrates the inputs from all ground and aerial battlefield sensors**, processing them to confirm their veracity, preventing duplication and fusing them to produce a Common Surveillance Picture of the battlefield over secured Army Data Network & Satellite Communication Network.

Features:

- It is equipped with **state-of-the-art sensors** and cutting-edge analytics.
- It will **monitor the vast land borders**, prevent intrusions, assess situations with unparalleled accuracy and prove to be a force multiplier in Intelligence, Surveillance & Reconnaissance.
- It would enable commanders to operate in both **conventional & sub-conventional operations** in a Network Centric Environment.
- These systems will be inducted to all operational Brigades, Divisions & Corps of the Indian Army in three phases.
- **Developed by:** It has been indigenously & jointly developed by the **Indian Army and Bharat Electronics Limited (BEL)**.
- **Significance:**
 - Its induction will be an extraordinary leap towards **data and network centrality** in the Indian Army.
 - It will **enhance battlefield transparency** and transform the future battlefield through a **Centralised Web Application** which will provide inputs to Command & Army Headquarters, and the Indian Army Decision Support System.



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WHO ARE SHOMPENS?



- They are one of the most primitive tribes of the Andaman and Nicobar (A&N) islands, and one of the most **isolated tribes** on the Earth.
- They are one of the **least studied Particularly Vulnerable Tribal Groups (PVTGs)** in India.
- They reside in the dense **tropical rain forests of the Great Nicobar Island**.
- Shompens, unlike the other primitive tribes of the Andaman and Nicobar Islands, are **not of Negrito but of Mongoloid stock**.
 - Their light yellow-brown skins, straight hair, narrow eyes and stocky build give them a **strong resemblance to the people of Myanmar and Indonesia**.
- **Population:** Though according to the Census (2011), the estimated population of Shompen is **229**, the exact population of Shompen is unknown till today.
- Most of them remain in the forest and have little or **no contact with outsiders**.
- They are **hunter-gatherers, living in small groups**, whose territories are identified by the rivers that criss-cross the rainforest.
- They also plant small gardens, cultivating lemon, chillies and betel, amongst other plants.
- Shompen **speak their own language**, which has **many dialects**. Members of one band do not understand the dialect of the other.
- They are of **short to medium stature**, have a round or nearly broad head shape, narrow nose, a broad facial profile, and distinctly exhibit Mongoloid features such as light brown to yellow brown skin and oblique eye features.
- They have **nuclear families** comprising husband, wife, and their unmarried children.
 - A Shompen family is controlled by the eldest male member, who controls all activities of the women and kids.
 - Monogamy is the general rule, although polygamy is allowed too.
- The Shompen **worship the moon, known as Houou**, as their goddess, whom they believe created the universe.