



## 1. National Maritime Heritage Complex

**Topic: Art and Culture**



**In News:** Prime Minister Narendra Modi has reviewed the construction of the National Maritime Heritage Complex (NMHC) site at Gujarat's Lothal via video conferencing.

### More on the Topic:

- Lothal was one of **the southernmost sites of the Indus Valley civilization, located in the Bhāl region of what is now the state of Gujarat.**
- The port city is believed to have been built in 2,200 BC. Lothal was a thriving trade centre in ancient times, with its trade of beads, gems and ornaments reaching West Asia and Africa.
- The meaning of Lothal (a combination of Loth and (s) thal) in Gujarati is “the mound of the dead”.
- Incidentally, the name of the city of Mohenjo-daro (also part of the Indus Valley Civilisation, now in Pakistan) means the same in Sindhi.

### Significance of Lothal:

- The excavated site of Lothal is the only port-town of the Indus Valley Civilisation.



- A metropolis with an upper and a lower town had in on its northern side a basin with vertical wall, inlet and outlet channels which has been identified as a tidal dockyard.
- Its heritage value is comparable to other ancient port-towns around the world – including Xel Ha (Peru), Ostia (Port of Rome) and Carthage (Port of Tunis) in Italy, Hepu in China, Canopus in Egypt, Gabel (Byblos of the Phoenicians), Jaffa in Israel, Ur in Mesopotamia, Hoi An in Vietnam, as per the dossier. I
- In the region, it can be compared with other Indus port towns of Balakot (Pakistan), Khirasa (in Gujarat's Kutch) and Kuntasi (in Rajkot).

#### The National Maritime Heritage Complex (NMHC):

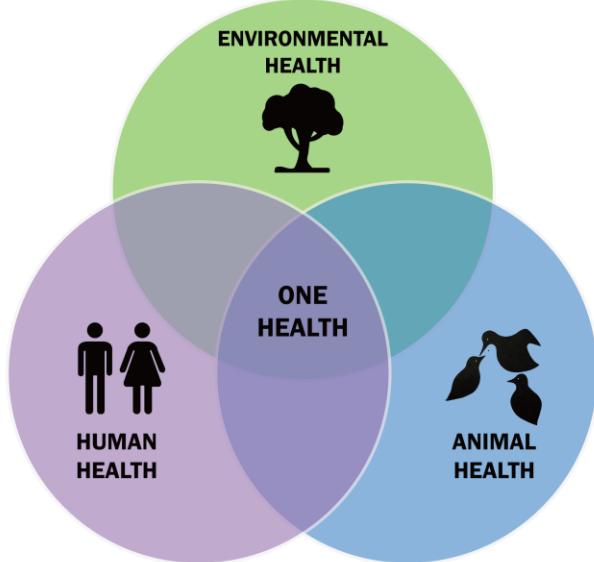
- The project began in March 2022, and is being developed at a cost of Rs 3,500 crore.
- It will have several innovative features such as **Lothal mini-recreation, which will recreate Harappan architecture and lifestyle through immersive technology**; besides four theme parks – Memorial theme park, Maritime and Navy theme park, Climate theme park, and Adventure and Amusement theme park.
- It will also house the **world's tallest lighthouse museum**, 14 galleries highlighting India's maritime heritage starting from the Harappan time till today, as well as a coastal states pavilion displaying the diverse maritime heritage of Indian states and UTs.

Source: Indian Express

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## 2. ‘One Health’ plan

Topic: International Relations





**In News:** Four multilateral agencies have launched a global 'One Health' plan to better address threats to all living beings as well as the environment.

**More on the Topic:**

- The 'Quadripartite' — comprising the United Nations (UN) Food and Agriculture Organization (FAO), the UN Environment Programme (UNEP), the World Health Organization (WHO) and the World Organisation for Animal Health.
- The Joint Plan of Action will create a framework and integrate systems and capacity to collectively prevent, predict, detect and respond to health threats.
- This will help **improve the health of humans, animals, plants, and the environment, while contributing to sustainable development.**
- The One Health Joint Plan of Action, developed through a participatory process, provided a set of activities that aim to strengthen collaboration, communication, capacity building and coordination.
- These will be **equally applicable on across all sectors responsible for addressing health concerns.**

**About One Health:**

- One Health is an **integrated, unifying approach that aims to sustainably balance and optimise the health of humans, animals, plants and ecosystems.**
- It is the primary approach for addressing the complex health challenges facing our society, such as ecosystem degradation, food system failures, infectious diseases and antimicrobial resistance (AMR).
- The concept of One Health recognises **the health of humans, domestic and wild animals, plants and the wider environment (including ecosystems) are closely linked and interdependent.**
- Efforts by just one sector or speciality cannot prevent or eliminate infectious disease and other complex threats to One Health.

**Six key areas were focused on in the plan are:**

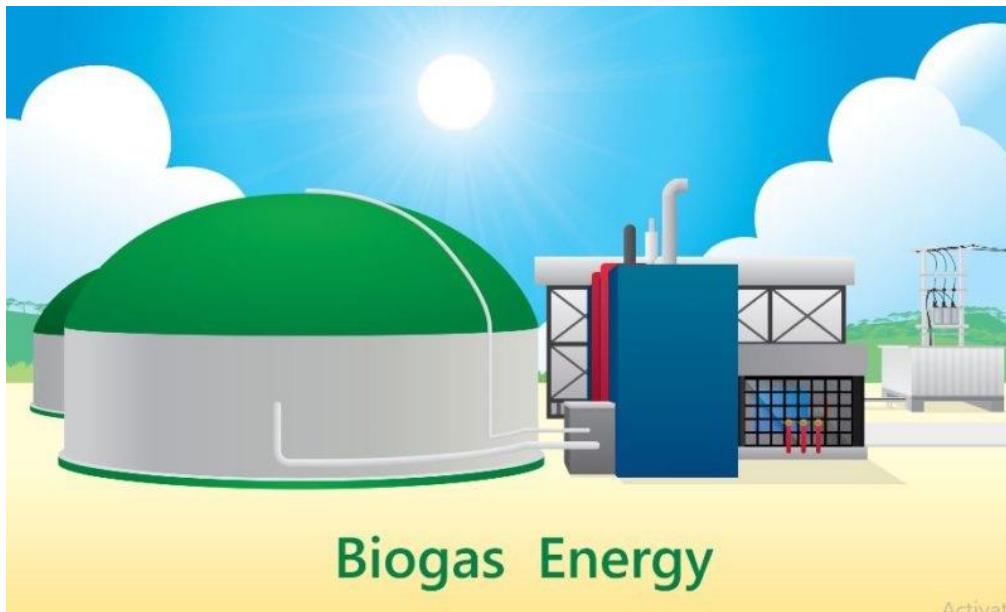
- One Health capacity for health system
- Emerging and re-emerging zoonotic epidemics
- Endemic zoonotic
- Neglected tropical and vector-borne diseases
- Antimicrobial resistance and the environment
- Food safety risks

**Source: Indian Express**

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### 3. Compressed Bio Gas (CBG)



#### Topic: Science and Technology

**In News:** Asia's largest Compressed Bio Gas (CBG) plant was opened at Lehragaga, Sangrur, Punjab.

#### More on the Topic:

- CBG is the compressed and purified bio-gas **produced from waste/bio-mass sources like agricultural residue, cattle dung etc.**
- Upgraded or high-purity biogas compressed at 250 bar pressure results in a fuel called compressed biogas (CBG). This has properties similar to compressed natural gas (CNG) and could be directly used to power CNG engines.
- Biogas, a renewable fuel produced using **the anaerobic digestion process from organic feedstock**, is primarily composed of methane (50-65 per cent), carbon dioxide (30-40 per cent), hydrogen Sulfide (1-2.5 per cent) and a very small fraction of moisture.
- It was predominantly thought of as a rural economy product. With the advancement in research and the tremendous urge to shift to greener fuels, however, biogas came back into the picture to supplement the rising global energy demand.
- The **removal of unwanted components like carbon dioxide, hydrogen sulphide and moisture from raw biogas yields pure methane** (over 97 per cent content).
- Some of the common methods to purify biogas include **water scrubbing, membrane separation, pressure swing adsorption and adsorption**.

#### Drawbacks:

- One major drawback of CBG is **its existence in the gaseous form, which demands bigger volumes for transportation.**
- Therefore, it is considered more suitable to power small-sized vehicles, though heavy engines have been used for short-distance driving.

#### Sustainable Alternative Towards Affordable Transportation (SATAT) scheme:

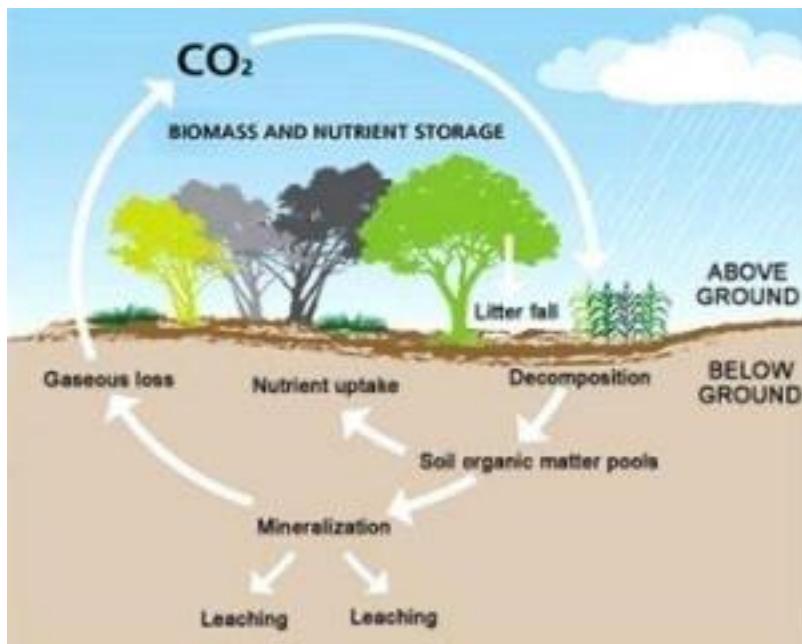
- The Indian government has been encouraging private businesses to set up CBG plants and provide CBG to oil marketing companies for sale as automotive and industrial fuels under the Sustainable Alternative Towards Affordable Transportation (SATAT) scheme launched in 2018.
- It has set **a goal to produce 15 million tonnes of CBG from 5,000 plants by 2023–24.**

Source: Hindu

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## 4. SOIL CARBON

**Topic: Government Schemes**



**In News:** A new study has found large grazing animals as key to long-term soil carbon stability.

#### More on the Topic:

- Since soil contains more carbon than all plants and the atmosphere combined, it is important to ensure its persistence.
- When plants and animals die, dead organic matter remains in the soil for a long duration before microbes break it down and release carbon into the atmosphere as carbon dioxide.



- Carbon is the solid carbon stored in soil, i.e. the organic and inorganic.
  - It is recognised as the largest store of terrestrial carbon and contains more carbon than all plants and the atmosphere combined
  - **Source:** PIB
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## 5. Doctrine of Res Judicata

### Topic: Polity and Governance

**In News:** The Supreme Court has observed that the Doctrine of Res Judicata is attracted not only in separate subsequent proceedings but also a subsequent stage of the same proceeding.

#### More on the Topic:

- Doctrine Res judicata (RJ) also known as claim preclusion, is the Latin term for "a matter decided" and refers to either of two concepts in both civil law and common law legal systems: a case in which there has been a final judgment and that is no longer subject to appeal; and the legal doctrine meant to bar (or preclude) relitigation of a claim between the same parties.
- In the case of res judicata, the matter cannot be raised again, either in the same court or in a different court. A court will use res judicata to deny reconsideration of a matter.
- The doctrine of res judicata is a method of preventing injustice to the parties of a case supposedly finished but perhaps also or mostly a way of avoiding unnecessary waste of judicial resources.
- Res judicata does not merely prevent future judgments from contradicting earlier ones, but also prevents litigants from multiplying judgments, and confusion.

**Source:** Business Standard

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## 6. Green Crackers

Topic: Science and Technology

**WHAT ARE 'GREEN CRACKERS?'**

Firecrackers that have "less dangerous" and "less harmful" chemicals than conventional ones

Expected to hit the market in 4-5 years

**GREEN BECAUSE...**

- they have a chemical formulation that produces water molecules
- this substantially reduces emission levels and absorbs dust
- is basically a light and sound show that produces lower emissions
- promise 30-35% reduction in particulate matter, nitrous oxide and sulphur oxide

**OTHER INITIATIVES**

- Crackers with lower aluminium to reduce emissions substantially
- 'Anar' or flower pots made using "eco-friendly material" that can reduce particulate matter by 40%
- Bijli crackers that eliminate use of ash as desiccants
- Firecrackers without antimony, lithium, mercury, arsenic and lead as directed by PESO last year

ALSO IN THE WORKS... E-CRACKERS BEING DEVELOPED BY CSIR'S CENTRAL ELECTRONICS ENGINEERING RESEARCH INSTITUTE

CSIR - Council of Scientific and Industrial Research

**In News:** Based on Sc orders, only green firecrackers will be sold in the Delhi for Diwali.

**More on the Topic:**

- Two Green crackers are low-emission crackers, free of harmful chemicals such as sulphur, nitrates, arsenic, magnesium, sodium, lead, and barium, which **reduce the emission of up to 30%**.
- Emit noise in the range of 100-130 decibels.
- Come with a green logo and Quick Response (QR) code to differentiate from conventional firecrackers.
- What is the difference between green crackers and traditional crackers?**
- Green crackers and traditional crackers cause pollution. People should refrain from using either.



- Only difference is that **green crackers cause 30 per cent less air pollution as compared to traditional ones.**
- Green crackers reduce emissions substantially and absorb dust and don't contain **hazardous elements like barium nitrate.**
- Toxic metals in traditional crackers are replaced with less hazardous compounds.

Source: Business Standard

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