

**DAILY  
CURRENT  
AFFAIRS  
ANALYSIS**



ENGLISH ACADEMY®

**23 NOVEMBER 2023**

# 1 - NISAR satellite:

## GS III

### Science and Technology

- **About NISAR:**

- NASA and ISRO are working together to construct NISAR, a low-earth orbit observatory.
- Every twelve days for a period of three years, the mission will survey every inch of land and ice on Earth.
- Under a cooperative agreement signed in 2014, the space agencies of the United States and India have been building NISAR.
- Dual-frequency imaging radar satellite, weighing 2,800 kg, it is equipped with both S-band and L-band synthetic aperture radar (SAR) equipment.

- **NASA offered:**

- the radar in the L-band,
- GPS
- a solid-state recorder with a large capacity for storing data, and
- A data subsystem for payloads

- **ISRO has offered:**

- the radar in S-band
- the spacecraft and GSLV launch system.
- The satellite's massive 39-foot fixed antenna reflector is another crucial part.
- The reflector, consisting of a wire mesh with a gold plating, is intended to concentrate the radar signals that are transmitted and received by the feed that faces upward on the instrument construction.

- In order to comprehend changes in the planet's ecosystems, ice mass, vegetation, biomass, sea level rise, groundwater, and natural hazards, it will supply consistent data across space and time.
- This would be the first mission to use an improved Sweep SAR technology for dual frequency radar imaging in the L- and S-bands.
- NISAR will generate high-resolution images through the use of synthetic aperture radar (SAR).
- No matter the weather, SAR can gather data day or night and penetrate clouds to get information.

- **A Synthetic Aperture Radar mission seeks to ascertain changes to the Earth in three areas:**

- ecosystems (the carbon cycle and vegetation),
- deformation (study of solid Earth), and
- cryosphere sciences (mostly in relation to sea level effects and climatic causes)

- **Objectives and reason for the mission:**

- NISAR will monitor minute variations in Earth's surface once it is sent into orbit, assisting scientists in comprehending the origins and effects of these events.
- It can identify early warning indicators of landslides, earthquakes, and volcanic eruptions.

- **Additionally, the satellite will:**

- gauge the level of groundwater,
- monitor the ice sheet and glacier flow rates, and
- keep an eye on the planet's agricultural and forest areas to further our knowledge of carbon exchange.
- NISAR will be used by ISRO for a number of projects, including as mapping agricultural areas and monitoring Himalayan glaciers, landslide-prone areas, and coastal changes.

- **Source → *The Hindu***

## 2 - AAINA Dashboard:

### GS II

#### Government Policies and Interventions

- **Important information:**
- Here, using an easy-to-fill data input form on the portal, Urban Local Bodies (ULBs) nationwide can take part in this ground-breaking effort by voluntarily submitting their vital data on a regular basis.
- **The AAINA Dashboard's main goals are to assist cities in:**
  - check their performance in comparison to other cities,
  - encourage them by highlighting opportunities and areas for development and
  - giving people the chance to interact and learn from leaders.
  - The AAINA dashboard would be a useful tool for comparing similarly situated cities and encouraging peer learning between cities, even though it wouldn't rank the ULBs.
- **The Dashboard will display the information provided by the ULBs based on indicators from five major pillars, which are as follows:**
  - Organisational & Political
  - Money
  - Organising
  - Citizen-Centered Administration and
  - Provision of Essential Services.
- The "AAINA Dashboard for Cities" seeks to build a solid database of the essential performance indicators of Urban Local Bodies with the active participation of all ULBs.
- It would be open to the public once it is populated and accessible to all parties involved.

- *Source → The Hindu*

### **3 - Mammal extinct for 60 years rediscovered:**

#### **GS III**

#### **Environmental Conservation related issues**

- **Important information:**

- A Dutch scientist made the lone prior report of the species in 1961.
- This mammal, an echidna, has the name David Attenborough, after the renowned naturalist and filmmaker.
- Echidnas, also referred to as spiny anteaters, are quill-covered monotremes that are members of the Tachyglossidae family of mammals that lay eggs.
- The only remaining members of the order Monotremata are the platypus and the four current species of echidnas, which are the only living animals that lay eggs.
- The final known habitat of the species, the Cyclops Mountains of Indonesia, is where the discovery was found.
- The species is one of the planet's five extant monotreme species.

- **IUCN classification:**

- This species is classified by the International Union for Conservation of Nature as critically endangered.

- *Source → The Hindu*

## 4 - Smog Tower:

### GS III

#### Environmental Conservation related issues

- **How do smog towers work?**

- Delhi inhabitants frequently keep small fans-equipped air purifiers (also known as HEPA filters) in their homes.
- The air is forced through a filter by the fan, which collects dust, pollen, particulate matter, and other contaminants.
- Similar ideas underlie a smog tower, which is designed to function as a massive air cleaner that is placed outside.
- In heavily populated locations, the tower's purpose is to enhance air quality by capturing pollutant particles.
- They are expensive to set up as well.
- The one that was installed in 2021 and serves Connaught Place, the city's famous business district, cost roughly \$2.5 million.
- The Supreme Court urged the federal government to build similar equipment in New Delhi several years ago, after seeing one in the Chinese city of Xi An.

- **Issues:**

- Smog towers are unable to clear the air quickly enough to have an impact because they are outside.
- Any benefits are negated as soon as the filtered air is discharged since it immediately combines with the ambient pollutants.
- Researchers discovered that the air is cleaned with 50% effectiveness, which decreases to 30% at 50 metres away from the filters and little over 10% at 500 metres away.
- Additionally, the researchers found that the framework holding the filters in place was not properly sealed, which let contaminated air get through.

- *Source → The Hindu*