

**DAILY
CURRENT
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ANALYSIS**



LAKSHYA ACADEMY®

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1 - NISAR satellite:

GS III

Science and Technology

- **Context:**

- Following a few tests, the NASA-ISRO Synthetic Aperture Radar (NISAR) is scheduled for flight in the first quarter of 2024.

- **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

- **Context:**

- The Ministry of Housing and Urban Affairs has activated the "AAINA Dashboard for Cities" (MoHUA).

- **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

- **Context:**

- In a distant Indonesian forest, a mammal that was thought to be extinct and last seen in 1961 has been found again.

- **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

- **Context:**

- As New Delhi struggles with its yearly environmental problem, there is a renewed discussion about the efficacy of pollution towers in the city, despite emergency efforts.

- **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*

5 - Plight of paddy sector in Kerala:

GS III

Environmental Conservation related issues

- **Context:**

- A farmer at Kuttanad in Alappuzha, a well-known paddy-growing region in the state, committed suicide, drawing attention to the dire situation of Kerala's paddy industry.

- **Important information:**

- **MSP for Kerala's paddy:**

- The Minimum Support Price (MSP) in Kerala consists of two parts:
- the sum that the Union government sets as a minimum payment for buying farmers' produce, and
- an extra reward provided by the state government.
- The MSP for each kilogramme of paddy was Rs 28.20 last year.
- The part of the Union government was Rs 20.40, while the Kerala government's portion was Rs 7.80.
- The Union government increased their portion to Rs 21.83 this season.
- The entire procurement price came to Rs 28.20 when the state government lowered its portion from Rs 7.80 to Rs 6.37.
- The procurement price is regarded as among the best in the nation, even at this cost.

- **Government of Kerala's subsidies for paddy farming:**

- The state government has introduced incentives to stimulate cultivation and discourage farmers from leaving the paddy fields fallow, as a result of the state's paddy cultivation area declining.
- The state initiatives provide input assistance of Rs 5,500 per hectare to promote paddy growing.
- Paddy farming is supported by the local self-government authorities (mostly panchayats) at a cost of Rs 25,000 per hectare for seeds, fertilisers, pesticides, and land preparation.
- Kerala implemented a royalty programme in 2020 for farmers who cultivate paddy for three years in a row.
- As a result, a farmer would receive royalty of Rs 2,000 per hectare (assistance limited to a hectare) per year.
- The royalty was raised to three thousand rupees per hectare.
- Farmers around the state, however, argue that these advantages haven't always been the same.

- **Impact on paddy farming and cultivation costs:**

- Kerala's paddy industry is viewed as unprofitable despite the incentives, mostly because cultivation costs are skyrocketing.
- The cost of cultivation per acre in 2021–2022 increased from Rs 69,344 to Rs 75,430, according to the state's Economic and Statistics Department.

- **Regarding the overall expense:**

- Employed workers made up 41.78 percent.
- 14.25% of labour was mechanised, and
- 11.19 percent for chemicals and manure.

- **This excluded:**

- the importance of domestic labour, which small and medium-sized farmers utilise to work their land, and
- interest related to the value of land.
- One quintal of paddy will only bring in Rs 2,820 at such rate.
- When cost and revenue are compared, it becomes clear that farmers barely make ends meet.
- Other elements causing the paddy sector's problems include:

- **Lack of labour:**

- The primary issue facing Kerala is the lack of labourers, who are mostly needed for planting saplings.
- In the paddy industry, women made up the majority of the labour force.
- Since the MGNREGS were implemented, the majority of older women have left the paddy industry.
- The majority of migrant workers employed by farmers these days are from West Bengal.
- But in Kerala, they are mostly accessible in the autumn during the paddy season.
- Due to the lack of migrant labour during the winter harvest, producers are forced to look for local labour, which is scarce.

- **Dispersed rice tracts:**

- In many sections of the state, mechanisation is practically impossible due to dispersed paddy tracts and competing interests among local farmers (some are anxious to continue farming, while others are not).
- Tractors and tillers can be found in Kerala, but harvesters need to be imported from Tamil Nadu.
- Once more, this has increased the cost of production.

- Due to a shortage of harvesters, paddy had died in the fields on numerous occasions.
- **Inaccurate monsoons:**
 - The state's paddy calendar has also been thrown off balance in previous years by unpredictable downpours during harvest and unpredictable monsoons during planting days.
- **Wildlife hazard:**
 - The threat of wild animals, particularly wild boars that prey on paddy fields, exists in almost all of Kerala's paddy tracts.
 - These attacks tear a large gash through the paddy tracts, significantly lowering yield and lengthening the harvesting process.
- **Drawbacks of the PRS system in Kerala:**
- **The issue:**
 - The Public Distribution System (PDS) in Kerala distributes rice that has been converted from paddy by private mills after the state-run Supplyco purchases the crop from farmers.
 - This rice would be part of the portion that the government's Food Corporation of India (FCI) lifts for Kerala.
 - Only once the rice enters the PDS network for distribution does the central government begin to distribute its portion of the MSP.
 - It takes at least four to six months to complete this procedure from the fields to the ration shops.
- **The resolution:**
 - In order to get over this delay, the Keralan government launched a lending programme in 2015.
 - Paddy Receipt Sheets (PRS) for the quantity purchased must be delivered to farmers by Supplyco when they collect their paddy.
 - Supplyco used to pay the farmers directly in the past.
 - Nevertheless, a group of banks came together to support the farmers as a result of the state government's financial difficulties.
 - In light of this, farmers will receive their share of the paddy selling proceeds from the relevant banks upon production of these PRS.
- **Issue with the resolution:**

- However, the money would only be credited to farmers' accounts by banks as a loan, with interest set by the banks, that would be repaid by Supplyco or the government.
- The government frequently fails to make PRS loan payments on time, citing the Union government's hold-up in releasing MSP.
- The farmers' credit score is impacted when the government defaults on the PRS loan on time.
- In addition to new agriculture loans, this has an impact on their other loan transactions. Currently, farmers are calling for the PRS loan system to be eliminated.

- *Source → The Hindu*



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