

## Current Affairs - 09 December 2024

### ALL IS NOT WELL WITH SOIL

- The 10th World Soil Day, celebrated on December 5, 2024, served as a poignant reminder of the critical role soil health plays in sustaining life on Earth.
- Coinciding with this global event, the Fertiliser Association of India (FAI) hosted its annual seminar on Sustainable Fertiliser and Agriculture, to discuss the crucial role of fertilisers in nourishing soils and ensuring food security.
- This year's theme, Caring for Soils – Measure, Monitor, and Manage, highlighted the urgency of addressing soil degradation and nutrient deficiencies that jeopardise agricultural productivity.

#### The State of Indian Soils

- Indian soils are alarmingly deficient in essential nutrients. Less than 5% of soils have sufficient nitrogen, 40% are sufficient in phosphate, 32% in potash, and only 20% in organic carbon.
- Furthermore, micronutrient deficiencies—such as sulphur, iron, zinc, and boron—range from moderate to severe.
- Despite these challenges, India remains a global agricultural powerhouse, exporting 85 million tonnes of cereals from 2020-21 to 2022-23 while providing near-free grain to over 813 million people during the pandemic.
- This success is partially attributed to the efforts of the fertiliser industry, which ensures timely availability of nutrients like nitrogen (N), phosphate (P), and potash (K), either through domestic production or imports.

#### The Need and Key Elements of Policy Reform to Better the Soil Health

- Rationalizing Subsidies
  - The current subsidy policy heavily favours urea, making it significantly cheaper than other fertilisers such as di-ammonium phosphate (DAP) and muriate of potash (MOP).

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- This has distorted the price signals farmers receive, leading to overuse of nitrogen and underuse of phosphorus and potassium.
- The resulting nutrient imbalance diminishes soil fertility, reduces crop yields, and harms long-term agricultural sustainability.
- Reform is essential to rationalise these subsidies and encourage balanced fertiliser use.
- **Economic Sustainability**
  - Fertiliser subsidies constitute a massive financial burden on the government.
  - In the last fiscal year, these subsidies amounted to ₹1.88 lakh crore, or nearly 4% of the Union budget.
  - Such high expenditure diverts resources from other critical sectors like health and education.
  - Reforming the subsidy mechanism could alleviate this fiscal strain while still ensuring affordability for farmers.
- **Environmental Protection**
  - Current practices result in low nutrient use efficiency (NUE), with only 35-40% of fertilisers absorbed by crops.
  - The remaining portion contributes to environmental pollution, releasing greenhouse gases like nitrous oxide and contaminating water bodies through nitrogen runoff.
  - Policy changes could incentivise the adoption of environmentally friendly practices and reduce these harmful effects.
- **Deregulation of Fertiliser Pricing**
  - A critical step is to deregulate fertiliser prices, allowing market forces to determine pricing.
  - Farmers can be compensated through direct income support, such as digital coupons or cash transfers, enabling them to purchase fertilisers based on need rather than distorted price signals.

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- This approach would incentivise the efficient use of nutrients while promoting innovation and competition within the fertiliser industry.
- **Expansion of the Nutrient-Based Subsidy (NBS) Scheme**
  - While DAP and MOP are already part of the NBS scheme, urea remains excluded.
  - Bringing urea under the NBS scheme would help correct the price imbalances between nitrogen, phosphorus, and potassium.
  - This move could encourage more balanced nutrient use and reduce the over-reliance on nitrogen.

### Conclusion

- Reforming India's fertiliser sector offers multifaceted benefits. It can enhance agricultural productivity, improve farmers' profitability, and reduce environmental damage.
- A balanced and efficient use of NPK and micronutrients will rejuvenate Indian soils, paving the way for sustainable agriculture.
- Furthermore, deregulation could elevate the fertiliser industry to global prominence, much like India's pharmaceutical sector in human health.

### INDIA INTERNET GOVERNANCE FORUM



The India Internet Governance Forum (IIGF) 2024 will be held on December 9-10, 2024, at the Bharat Mandapam Convention Center, Pragati Maidan, New Delhi.

- It is the **Indian chapter** of the **United Nations Internet Governance Forum (UN IGF)**.
- It is a **global multi-stakeholder platform** that fosters dialogue on public policy issues related to **the Internet**.
- **Established in 2021**, aims to maximize the opportunities of the Internet while addressing associated challenges and risks.

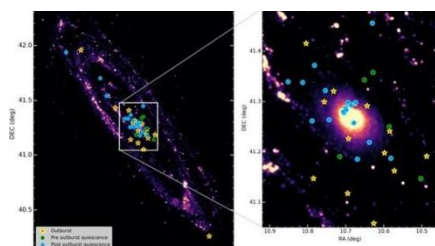
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- IIGF promotes collaborative discussions among representatives from government, civil society, industries, technical communities, think tanks, and industry associations.
- It is supported by a 14-member multi-stakeholder committee, IIGF Known for its inclusive and collaborative approach, IGF plays a vital role in shaping policies for an open, secure, and accessible Internet, addressing issues such as cybersecurity, digital inclusion, data privacy, and emerging technologies.

### Highlights about the IIGF-2024:

- It is supported by the **Ministry of Electronics and Information Technology (MeitY) and the National Internet Exchange of India (NIXI)**.
- This initiative by India's multi-stakeholder community aims to explore critical aspects of Internet governance, foster meaningful dialogue, and highlight India's leadership in the global digital landscape.
- It will address critical themes to advance a secure, inclusive, and sustainable digital ecosystem. The forum will explore **Legal and Regulatory Frameworks** to create balanced, growth-oriented policies that strengthen Internet governance.
- Another key focus is **Responsible AI, promoting the ethical and effective use of artificial intelligence for societal benefit.**

### WHAT IS NOVA?



Astronomers from the Indian Institute of Astrophysics (IIA) have spotted far ultra violet (FUV) emissions from novae for the first time in the neighbouring Andromeda galaxy.

- It is a special class of **transient astronomical event** that causes the sudden appearance of a bright, apparently new star that slowly fades over weeks or months, during their outburst.

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- **Nova occurs in binary star systems** where a dense, Earth-sized white dwarf star orbits closely with a Sun-like companion.
- The white dwarf's strong gravitational pull draws matter from its companion, creating an intense accumulation of material on its surface.
- This process triggers powerful thermonuclear reactions, producing a sudden bright burst visible as a nova.
- A nova reaches **maximum luminosity within hours** after its outburst and may shine intensely for several days

### Significance of the research:

- Researchers discovered ultraviolet **emission from 42 novae**, a special class of stellar explosions, and even caught four of them in the act of outburst itself.
- This could help scientists study these **interacting binary star systems** in our nearest neighbor galaxy at **different phases of their life**, some piling up matter from their companion, while others spewing it into space.

### About Andromeda galaxy:

- The Andromeda Galaxy, also **called Messier 31 or M31**, is the nearest major galaxy to the Milky Way.
- It is **5 million light years away** from Earth and is the other major member of the Local Group, our local collection of galaxies.
- Like the Milky Way, it is a **barred spiral galaxy**, so-called for the bar-like structure formed by the stars in its center

### UN COMMISSION ON NARCOTIC DRUGS



Recently, India has been chosen to Chair the 68th Session of the United Nation Commission on Narcotic Drugs (CND).

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- It is the principal policy-making body of the **United Nations on drug-related matters**.
- It is mandated to **monitor global drug trends**, support Member States in formulating balanced policies, and oversee the implementation of the major international drug conventions.
- It is mandated to decide on the scope of control of substances under the three international drug control conventions (1961, 1971 and 1988 Conventions).
- It was **established by the resolution of the United Nations Economic and Social Council (ECOSOC) IN 1946**.
- It is one of the functional commissions of the ECOSOC and a Governing Body of the United Nations Office on Drugs and Crime (UNODC).
- The CND has **53 member states** that are **elected by ECOSOC**. It is **chaired by a Bureau** including one member per Regional Group.

**It has five subsidiary bodies:** the Heads of National Drug Law Enforcement Agencies in Europe, Latin America and the Caribbean, **Asia and the Pacific and Africa**, and the Sub-commission in the Near and Middle East.

- It **meets annually** and adopts a range of decisions and resolutions. Intersessional meetings are convened throughout the year.
- Towards the end of each year, the Commission meets at a reconvened session to **consider budgetary and administrative matters** as the governing body of the United Nations drug programme.
- **Headquarter:** It is headquartered in Vienna.

### Significance to India:

- This is the **first time that India has been named** to Chair this important UN body.
- This reinforces India's growing leadership role on the global stage and its commitment to addressing international issues through established multilateral mechanisms



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### KEY FACTS ABOUT LONAR LAKE



The Maharashtra government plans to submit a proposal to the Archaeological Survey of India (ASI) to include the famous Lonar Lake in Buldhana district in the UNESCO World Heritage Sites list.

- It is a lagoon lake in the Buldhana district of **Maharashtra**.
- It was created due to the impact of a **meteorite**.
- It is the **only known saline crater lake in the world**, formed by the impact of a meteorite about 50,000 years ago.
- Its water is **seven times saltier** than average seawater.
- The lake has a diameter of 1.2 kilometers and a depth of 150 meters, and is surrounded by a rim of hills that rise up to 75 degrees.
- One of the most **striking aspects** is its color, which **changes from green to pink depending on the season and the water conditions**. This is caused by the presence of microorganisms that thrive in the saline and alkaline environment of the lake.

### WHAT ARE MOTHS?



Moths can hear sounds emitted by plants and rely on them to choose on which plant to lay their eggs, according to a new study.

- Moths are **insects** that belong to the order **Lepidoptera**, which they share with **butterflies**.
- There are around 160,000 known **species** of moths, **far outnumbering butterfly species**.
- **Highly adapted**, they live in all but **polar habitats**.
- Moths vary greatly in size, ranging in wingspan from about 4 mm (0.16 inch) to nearly 30 cm (about 1 foot).

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- They **often have duller colors** compared to butterflies, which helps with camouflage. Some, like the luna moth or atlas moth, are vividly colored.
- **Moth antennae are often feathery**, unlike the thin and clubbed antennae of butterflies.
- Most moths are **active at night, but some are diurnal**.
- The **larvae and adults of most moth species are plant eaters**. Larvae in particular do considerable damage to ornamental trees and shrubs and to many other plants of economic importance.

### PILIBHIT TIGER RESERVE



- It is located in Pilibhit, Lakhimpur Kheri and Bahraich districts along the **India-Nepal border** in the **foothills of the Himalayas** and the **plains of the 'terai' in Uttar Pradesh**.
- The **river Gomti** originates from the reserve, which is also the catchment of several others like **Sharda, Chuka, and Mala Khannot**.
- The **Sharda Sagar Dam**, extending up to a length of 22 km (14 mi), is on the boundary of the reserve.
- It has a **dry and hot climate**, which brings a combination of **dry teak forest and Vindhya Mountain soils**.

#### Flora:

- It is characterized by **sal forests, tall grasslands, and swamps**, maintained by periodic flooding from rivers.
- The **sal woodland** is very dense with good natural regeneration, amounting to almost 76% of the reserve area.
- The forest patches are interspersed with grass meadows with several species like *Sacchrum*, *Sclerostachya*, *Imperata*, *Themeda*, *Bothriochloa*, *Vetiveria*, *Apluda*, *Dichanthium*, *Digitaria*, and *Cyperus*.





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### Fauna:

- It is home to a myriad of wild animals including the endangered **tiger, swamp deer, Bengal florican, hog deer, leopard, etc.**
  - The rich bird life in Pilibhit includes species like Swamp Francolin, Great Hornbill, Bengal Florican, Lesser Florican, Black Francolin, Jungle Bush Quail, Red Junglefowl, Asian Openbill, etc.
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