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TATHASTU

Institute of Civil Services



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PM-PRANAM scheme gets CCEA nod

News: The cabinet approved a string of schemes aimed at promoting sustainable agriculture and ensuring well-being of farmers.

What are the schemes in news?

Continuation of Urea Subsidy Scheme

- The CCEA approved continuation of **Urea Subsidy Scheme** to ensure constant availability of urea to the farmers at the same price of Rs 242/ 45 kg bag excluding taxes and neem coating charges.
- Due to the ever-changing geopolitical situations and increased raw material prices, Fertilizer prices have been increasing multifold globally over the years. But the Government of India has protected its farmers from steep fertilizer price rises by increasing the fertilizer subsidy.

Nano Urea eco-system strengthened

- By 2025-26, **eight Nano urea plants** with production capacity of 44 Crore bottles equaling to 195 LMT of conventional urea will be commissioned.
- Nano fertilizer releases nutrients in a controlled manner contributing to higher nutrient use efficiency and while costing less to the farmers. The application of Nano Urea has demonstrated increase in crop yield.

PM-PRANAM scheme

- It encourages sustainable use of chemical fertilizers.
- PM Programme for Restoration, Awareness Generation, Nourishment and Amelioration of Mother – Earth (PMPRANAM) is launched **to incentivize States/ Union Territories to promote alternate fertilizers** and balanced use of chemical fertilizers.

Introduction of Sulphur coated Urea (Urea Gold)

- It is being introduced in the country for the first time and is **more economical** and **efficient** than the currently used Neem coated urea. It will **address Sulphur deficiency** for the soil in the country.

Market Development Assistance (MDA) for promoting Organic Fertilizers from Gobardhan Plants

- Alloted 1451 crore rupees for marketing of organic fertilizers, viz., Fermented Organic Manures (FOM)/Liquid FOM/Phosphate Rich Organic Manures (PROM) produced as by-products from Bio- gas Plants/Compressed Biogas (CBG) Plants set up under umbrella GOBARDHAN initiative.

How will the above schemes help the farmers and in general other benefits?

- Improved soil health → Increased nutrient efficiency → Safe environment → Better Human health
- Better utilization of crop residue
- Farmers need not pay extra for urea
- Input cost for farmers will come down owing to reduced use of chemical fertilizers, opting for nano-urea etc
- Better returns for crops due to increased productivity

Source - PIB

CABINET DECISION
28 JUNE 2023

Package of schemes for farmers

Package

- Continuation of Urea Subsidy Scheme to ensure constant availability of urea to the farmers at the **same price of Rs 242/ 45 kg bag for 3 years**
- **8 Nano urea plants** with production **capacity of 44 crore bottles equal to 195 LMT** of conventional urea to be commissioned by 2025-26
- **Rs. 1451.84 crore** approved for Market Development Assistance for promoting Organic Fertilizers from GOBARDHAN Plants
- Introduction of **Sulphur coated Urea (Urea Gold)**

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Critical Minerals for India

News: Recently, the first-ever report of the country on “Critical Minerals for India”, prepared by an expert team constituted by the Ministry of Mines was released.

What are critical minerals?

- Critical minerals are minerals that are essential for the **economic development** and **national security** of a country but have limited availability and high supply risks.
- Different countries have identified their own lists of critical minerals based on their specific needs and priorities. For example, the US has 35 critical minerals, the EU has 30, Australia has 24 and Japan has 31.

What are critical minerals for India?

- Expert Committee under the Ministry of Mines has identified a set of 30 critical minerals for India.
- The list comprises 30 minerals, including 17 rare earth elements (REEs) and six platinum-group elements (PGE), each designated as critical based on their economic importance and limited availability in India’s geological reserves.
- Some of the minerals are antimony, beryllium, bismuth, cobalt, copper, gallium, germanium, graphite, hafnium, indium, lithium, molybdenum, niobium, nickel, PGE, phosphorous, potash, REE, rhenium, silicon, strontium, tantalum, tellurium, tin, titanium, tungsten, vanadium, zirconium, selenium, and cadmium.

Elements identified by Committee	High EI	High SR	Both High	Elements identified by Committee	High EI	High SR	Both High
1. Copper	High EI			18. Gallium			Both High
2. Cobalt			Both High	19. Niobium			Both High
3. Graphite			Both High	20. Tungsten			Both High
4. Lithium			Both High	21. Magnesium			Both High
5. Nickel			Both High	22. Hafnium			Both High
6. PGE			Both High	23. Strontium			Both High
7. REE		High SR		24. Boron			Both High
8. Silicon	High EI			25. Manganese			Both High
9. Tellurium	High EI			26. Bismuth		High SR	
10. Tin			Both High	27. Germanium		High SR	
11. Titanium	High EI			28. Indium		High SR	
12. Phosphorous			Both High	29. Tantalum		High SR	
13. Potash	High EI			30. Vanadium		High SR	
14. Zirconium	High EI			31. Rhenium		High SR	
15. Molybdenum	High EI			32. Selenium	High EI		
16. Antimony			Both High	33. Cadmium	High EI		
17. Beryllium			Both High				

Legend:
High Economic Importance (Orange)
High Supply Risk (Blue)
High Economic Importance as well as High Supply Risk (Green)

Which minerals are listed as 100% import-dependent?

- Lithium cobalt, nickel, vanadium, niobium, germanium, rhenium, beryllium, tantalum, and strontium.

What is the importance of Critical minerals for India?

- Critical minerals are required to meet the **manufacturing needs of green technologies**, such as zero-emission vehicles, wind turbines, solar panels and hydrogen.
- Critical minerals are also vital for **information and communication technologies**, such as semiconductors, high-end electronics, telecommunications and digital infrastructure.
- Critical minerals are also key for **advanced manufacturing inputs and materials**, such as defence applications, permanent magnets, ceramics, alloys and superconductors.
- These materials are important for India to **strengthen its national security** and **strategic capabilities** in sectors like defence, space and nuclear energy.

What are the challenges India faces in securing supply of Critical minerals?

- It is largely dependent on imports from other countries, especially China.
- India also lacks adequate exploration, mining, processing and recycling capacities for critical minerals.
- India has limited reserves for critical minerals and over-reliance on imports comes with cost of increased price fluctuations, supply chain disruptions and geopolitical concerns.

- However, India can **look to diversify our source of supply of minerals** from different countries. India's recent agreement with US over joining **Minerals supply partnership** is a right step and bilateral agreements can be made with countries (Australia, Chile, South Africa) who have rich reserves of critical minerals.

What recommendations were given by committee?

- Set up a **national institute or a centre of excellence for critical minerals**
- A wing in the Ministry of Mines can be established as a **Centre of Excellence for Critical Minerals (CECM)**.
- The centre of excellence collaborates with international agencies or Khanij Bidesh India Ltd (KABIL) for the strategic acquisition of foreign assets of critical minerals.
- CECM will also periodically update the list of critical minerals for India.

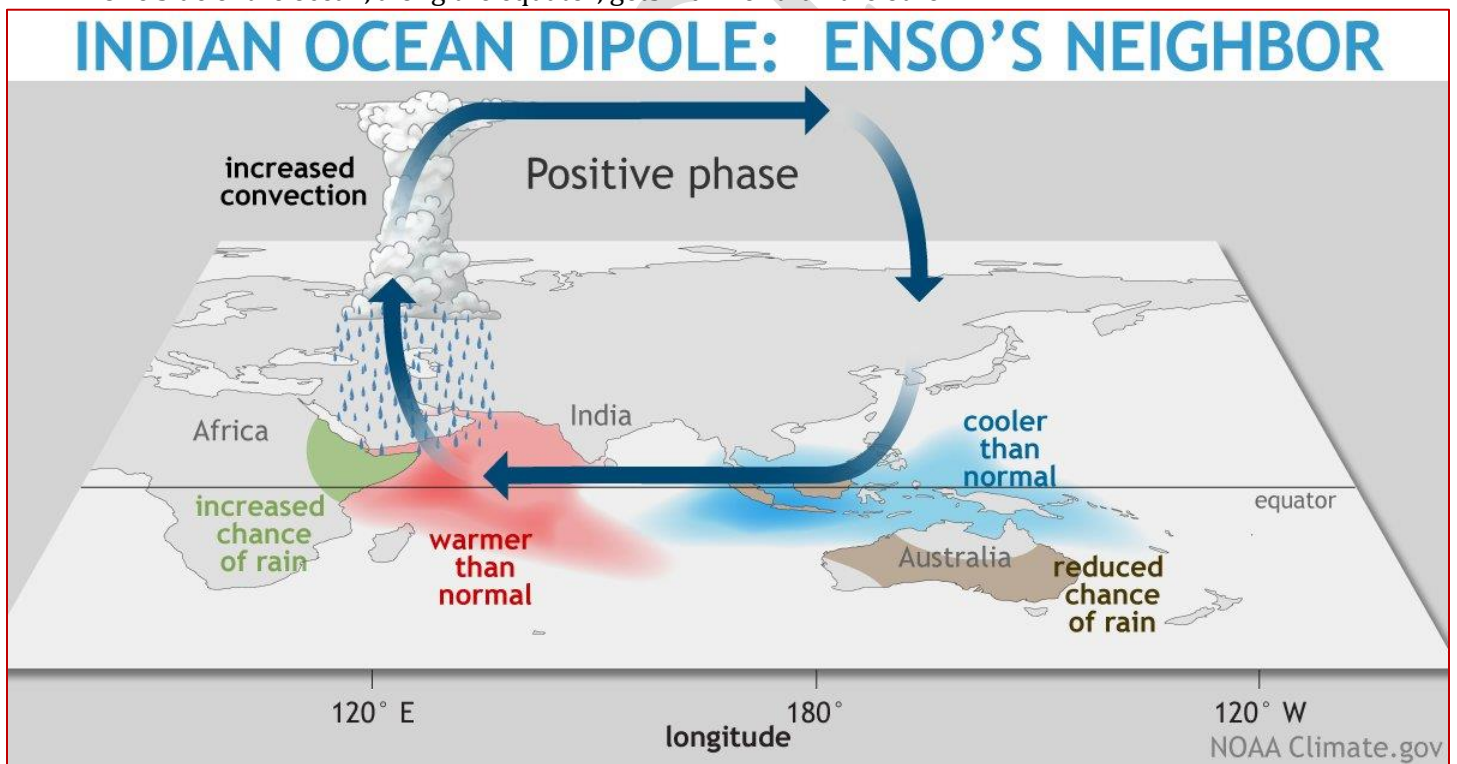
Source – PIB, Report of the Committee

Indian Ocean Dipole

News: With the El Nino phenomenon almost certain to affect the Indian monsoon this year, high hopes are pinned on the development of a positive Indian Ocean Dipole (IOD) and its ability to counterbalance the El Nino effect.

What is IOD?

- The IOD is an ocean-atmosphere interaction very similar to the El Nino fluctuations in the Pacific Ocean, playing out, as the name shows, **in the Indian Ocean**. It is also a much weaker system than El Nino, and thus has relatively limited impacts.
- IOD, sometimes referred to as the **Indian Nino** is a phenomenon playing out in the relatively smaller area of the Indian Ocean **between the Indonesian and Malaysian coastline in the east and the African coastline near Somalia in the west**.
- One side of the ocean, along the equator, gets warmer than the other.



What is a positive IOD? What is its impact?

- IOD is said to be positive when the **western side of the Indian Ocean**, near the Somalia coast, **becomes warmer than the eastern Indian Ocean**.
- A positive IOD **enhances monsoon rainfall** over the Indian subcontinent and along the African coastline but it suppresses rainfall over Indonesia, south-east Asia and Australia.

What is a negative IOD? What is its impact?

- IOD is said to be negative when the western side of the Indian Ocean becomes cooler than the eastern Indian Ocean.
- A negative IOD shows opposite impacts of Positive IOD.

Which are the factors considered while making forecasts about monsoon in the month of April?

The Earth System Science Organisation (ESSO) and the IMD take into account five factors.

- The **Sea Surface Temperature (SST) gradient** between the North Atlantic and the North Pacific (conditions during December of the previous year and January of the present year)
- **SST of the equatorial south Indian Ocean** (conditions during February and March of the present year)
- **Mean Sea Level pressure in East Asia** (conditions during February and March of the present year)
- **The surface air temperature over northwest Europe** (conditions during January of the present year)
- **The warm water volume of the equatorial Pacific Ocean** (conditions during February and March of the present year)

Source – Indian Express, IMD

Lab Grown Meat

News: Two California-based companies have received approval from the U.S. government for production and sale of Cell-cultivated chicken, also known as lab-grown meat.

What is Lab-grown meat?

- Lab-grown meat is **meat that is produced from animal cells in a controlled environment**, without the need to raise and slaughter animals. It is also known as cultivated, cultured, synthetic or clean meat.
- Lab-grown meat is made by taking a small sample of cells from an animal, such as a cow, chicken or fish, and placing them in a bioreactor with a nutrient-rich solution that allows them to multiply and differentiate into muscle and fat cells. The cells are then harvested, processed and shaped into various products, such as nuggets, burgers or steaks.

Lab-grown meat has several potential benefits over conventional meat, such as:

- Reducing animal suffering and slaughter
- Reducing greenhouse gas emissions and land use
- Reducing the risk of foodborne illnesses and antibiotic resistance
- Providing more control over the quality and nutrition of the meat
- Offering more variety and innovation in the meat market

What are the challenges?

- Scaling up production and reducing costs, Gaining consumer acceptance and trust, Addressing ethical and social concerns, Competing with plant-based alternatives and Resolving legal and regulatory issues.

Conclusion

- Lab-grown meat is still in its early stages of development and commercialization, but it is expected to become more widely available in the coming years as the technology improves and the demand for sustainable and ethical meat grows.

Source – [livescience.com](https://www.livescience.com)

Places in News

Turkmenistan

News: Recently, Turkmenistan inaugurated **Arkadag**, a \$5 billion 'smart city'. The city is built in honour of former strongman leader **Gurbanguly Berdimukhamedov**.

About Turkmenistan:

- Turkmenistan is a landlocked country in Central Asia, bordered by Kazakhstan, Uzbekistan, Afghanistan, Iran and the Caspian Sea.
- It is the **second largest state** in Central Asia, after Kazakhstan, and has a population of about six million people.
- Turkmenistan became independent from the Soviet Union in 1991. It is a **presidential republic with a totalitarian hereditary dictatorship**.

What are important physical features in Turkmenistan?

- The **Kara-Kum Desert**, which covers 80 per cent of the country and is one of the largest and driest deserts in the world.
- The **Kopet-Dag Range**, which forms the **border with Iran** and is part of the **larger Alborz Mountains**. It has steep slopes, deep valleys, rocky plateaus and fertile foothills.
- **The Caspian Sea**, which is the largest inland body of water in the world and lies to the west of Turkmenistan.
- The **Amu Darya River**, which is the longest river in Central Asia and forms part of the border with Uzbekistan and Afghanistan. It originates from the Pamir Mountains and flows into the Aral Sea.
- Some of its famous landmarks include the **Darvaza gas crater** (also known as the Door to Hell), the **ancient city of Merv**, the Turkmenbashi Ruhy Mosque and the Monument of Neutrality.



Facts for Prelims

PEN Pinter Prize

News: **Michael Rosen**, a British children's writer and performance poet, has been awarded the PEN Pinter Prize 2023.

What is the PEN Pinter Prize?

- An award dedicated to English writer Harold Pinter, the PEN Pinter Prize is a prestigious award which is given to a writer who reflects a "**fierce intellectual determination (to) define the real truth of our lives and our societies**".
- Established in 2009, previous winners of the PEN Pinter Prize include Hanif Kureishi (2010), Salman Rushdie (2014), and Lemn Sissay (2019).
- The prize is given to a writer from the **UK, Ireland, and the Commonwealth** who is committed to fearless exposition of truth about contemporary life.

American Bald Eagle

News: The successful conservation story of American Bald Eagle was in news recently.

Background:

- The American bald eagle was removed from the endangered species list in 2007, marking a significant milestone in its conservation.
- The bird's population has steadily increased since then, with a 2021 report stating that the number of bald eagles in the wild has quadrupled since 2009.

About:

- The bald eagle, once abundant across the United States with an estimated 100,000 nesting birds in the country, faced a severe decline in population due to hunting, habitat destruction, and the pesticide (DDT)
- The bald eagle's natural range covers most of North America, including most of Canada, all of the continental US, and northern Mexico.
- The average life span of bald eagles is 20 to 30 years.
- Bald eagles build their nests at the very top of tall trees so the eggs will be safe and female bald eagles are a bit bigger than the males.
- Bald eagles can actually swim and will do so when they've caught a fish that's too large to pluck out of the water. Instead, they're known to drag their kills to shore first.
- It is also the National symbol of the USA.



About its conservation efforts:

- Protecting against hunting, banning of DDT, breeding programs, and habitat protection around nesting sites, led to a steady growth in bald eagle populations.
- In 1995, the bald eagle was moved from "endangered" to "threatened" status and in 2007, it was delisted completely.