Achieving self-reliance in fertilizer production

Why in news?

With the crisis continuing in Ukraine and Gaza, experts and policymakers are concerned about further increase in the prices of the components used for making petroleum-based chemical fertilizers.

What are the challenges in fertilizer imports in India?

- **Geopolitical tension** – The rising conflicts such as in Russia – Ukraine and Gaza have disrupted fertilizer imports.
- **Price volatility –** Fluctuation in crude oil prices, could increase fertilizer production costs.
- **Rise in import bill** – When fertilizer cost increases it further burdens exchequer on budgetary allocations.

  The Centre allocated Rs 1.79 lakh crore as fertilizer subsidy under the Budget estimates for 2023-24.

- **Supply chain vulnerabilities –** Delays in shipments due to geopolitical tensions directly affect India's agricultural sector.

Status of fertilizer production in India	
• **India's fertilizer production** - In FY24 India produced ***435.95LMT*** of fertilizer which led to decline in fertilizer import. • The Indian fertilizer industry is expected to grow at CAGR of 4.2% from 2024 to 2032. • The country imports 20-25% of its overall fertilizer needs. • **Major import partners** - India's fertilizer imports were mostly from countries such as China, Russia, Saudi Arabia, UAE, Oman, Iran and Egypt. • **Declining imports -** Fertilizer imports dropped by nearly 10% in 2024. - Urea imports declined by 7% - DAP by 22% - NPKs by 21%	
Indigenous fertilizer production (435.95LMT)	• Urea - 250.72 LMT • NPK - 89.67 LMT • Diammonium Phosphate (DAP) - 42.22 LMT • Single Super Phosphate (SSP) - 53.34 LMT.
Imported fertilizer (143.72LMT)	• Urea - 20% • DAP – 50-60% • ***Muriate of Potash (MOP) - 100%***

Total fertilizer consumption (579.67LMT)	• Urea – 341.73 LMT • DAP – 92.64 LMT • MOP – 23.93 LMT • NPK - 121.37 LMT

What are the measures taken to achieve self-sufficiency in fertilizers?

- **Upgrading fertilizer plants** – Plants in regions like Gorakhpur and Ramagundam have been revitalized with advanced, energy-efficient technology.
- **Self-sufficiency in urea** - The Union government has set 2025-26 as the deadline by which the country will end all urea imports.

Urea accounts for about 70% of the overall fertiliser subsidy bill.

- **Nano urea production** - Six Nano Urea plants and four Nano DAP plants have been set up in the country

The Indian Farmers Fertiliser Cooperative (IFFCO) has sold about 3.3 million tonnes of locally produced nano urea worth about ₹7 crore between August 2021 to February 2024.

- **Organic farming** – Paramparagat Krishi Vikas Yojana (PKVY) promotes organic farming and offers Rs 50,000 per hectare for three years, with Rs 31,000 directly allocated to farmers for organic inputs.
- **Sustainable agriculture** – National Mission for Sustainable Agriculture (NMSA) implements strategies to make Indian agriculture more resilient to climate change.
- **Neem coated fertilizer** – 100% Neem coating of subsidized urea is mandated to enhance efficiency and prevent misuse.
- **One Nation, One Fertiliser** – Pradhan Mantri Bhartiya Jan Urvarak Pariyojana scheme aims to implement One Nation One Fertilizer by introducing Single Brand for Fertilizers and Logo.
- **Alternate fertilizers** – PM Promotion of Alternative Nutrients for Agriculture Management (PM PRANAM) promotes balanced and sustainable use of chemical fertilisers, adopting alternative options like organic, nano, and bio-fertilisers, and encouraging natural and organic farming.

What measures can be taken to achieve self-sufficiency in fertilizer production?

- **Revival and modernization of plants** – Focus on reopening defunct plants and *modernizing existing ones* to increase production capacity.
- **Research and innovation** – Promote nano fertilizers to precise delivery of nutrients with increased efficiency and reduced wastage.
- **International collaborations** – Encourage collaboration of Indian companies with global fertilizer producers to integrate cutting-edge technology.
- **Policy reforms and incentives** – Increase public, co-operatives, private participation

in fertilizer production by providing various incentives, including subsidies, tax relief, and funding support.

- **Import diversification** – Diversify the import sources to mitigate risks associated with over-reliance on a single supplier.
- **Eco-friendly alternatives** – Promotes eco-friendly and organic fertilizers to reduce the environmental impact of chemical fertilizers.
- **Organic farming promotion** – Initiatives such as bio-waste and compost-based fertilizers aim to reduce dependency on chemical fertilizers, fostering sustainable agricultural practices and helping preserve soil health.
- **Promotion of bio-fertilizer** – It is an eco-friendly alternative to chemical fertilizers that can help India achieve self-sufficiency.

References

1. The Hindu | Challenges for India in Fertilizer Imports
2. Hindustan Times | Fertilizer Imports Fall On Higher Local Output

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