



## Fertilizer Sector in India

**For Prelims:** [One Nation One Fertilizer](#), [Nano-fertilizers](#), [Neem Coated Urea](#), [Pradhan Mantri Kisan Samridhi Kendras](#)

**For Mains:** [Fertilizer Sector](#), Atmanirbhar Bharat & Strategic Sectors.

[Source: FE](#)

### Why in News?

A **parliamentary committee** has urged the government to **reclassify the fertilizer sector as 'strategic'**, criticizing its current **'non-strategic' status** as inconsistent with **India's self-reliance goals** under [Atmanirbhar Bharat](#), especially in light of growing import dependency and food security concerns.

### What are the Parliamentary Committee Observations and Recommendations on the Fertilizer Sector?

#### Observations

- **Link to Food Security:** Fertilizers are crucial for **agricultural productivity and food sovereignty**. The panel noted that India's high import dependence (**25% for urea, 90% for phosphates, and 100% for potash**) makes strengthening fertilizer PSUs essential for **domestic production**, price stability, disaster resilience, and long-term food security.
  - The [Department of Investment and Public Asset Management \(DIPAM\)](#) denied strategic status to the fertilizer sector despite the sector's critical role in **food security**.
- **Low PSU Market Share: Public Sector Undertakings (PSUs)** contribute only **~25% of urea** and **~11% of non-urea** fertilizer production.
  - The **private sector dominates** the industry, contributing over **57%** of total production (2023-24).
  - The panel noted that **PSUs serve as price stabilizers**, particularly for small and marginal farmers through government-subsidized distribution, underscoring the **need to treat the fertilizer sector as strategic**.

#### Recommendations

- **Policy Support:** Classify the sector as **'strategic' to attract sustained investment** and ensure alignment with Atmanirbhar Bharat goals.
- **Revitalizing Fertilizer PSUs:** Launch a **dedicated mission** to upgrade technology, diversify products, and adopt sustainable practices in public sector units.
  - The committee noted that revived fertilizer PSUs have achieved a successful turnaround, with the reopening of closed units contributing 7.62 MT to annual urea production.

## How Integral are Fertilizers to India's Agriculture and Economy?

- **Agriculture's Economic Footprint:** Agriculture and allied sectors contribute nearly **16% to GDP** and support over **46% of India's population**, forming a foundational pillar for economic livelihood.
- **Fertilizer Production and Consumption Trends:** India is the **second-largest user** and **third-largest producer** of fertilizers globally.
  - The total Fertilizer production has increased from 385.39 **Lakh Metric Tonnes (LMT)** in 2014-15 to 503.35 LMT in 2023-24.
  - In 2023-24, fertilizer production was led by the **private sector (57.77%)**, followed by cooperatives (24.81%) and the public sector (17.43%).
- **Import Dependency:** In 2023-24, India consumed 601 LMT of fertilizers, producing 503 LMT domestically and importing 177 LMT.
  - Self-sufficiency reached **87% for urea**, **90% for NPK (nitrogen, phosphorus, and potassium)**, but only **40% for DAP (Di-Ammonium Phosphate)**, while **Muriate of Potash (MOP)** remains **100% imported**.

## How is India's Fertilizer Sector Evolving Towards Sustainability and Self-Reliance?

- **Brand Unification under ONOF:** The [One Nation One Fertilizer \(ONOF\)](#) initiative standardizes branding across subsidized fertilizers like '**Bharat Urea**', '**Bharat DAP**', etc. to eliminate confusion and ensure uniform quality and government support.
- **Sustainable Fertilizer Practices:**
  - **Nano-fertilizers (nano urea, nano DAP):** Nutrients encapsulated in tiny particles, releasing slowly into the soil for better plant absorption and minimal wastage..
  - **Neem-Coated Urea (NCU):** Improves nitrogen efficiency, requiring **~10% less urea to achieve comparable results**, minimizing losses and enhancing soil health.
  - **PM-PRANAM Scheme:** Encourages reduced **chemical fertilizer use**, promoting **organic alternatives**, with state incentives linked to performance.
  - **Bio-fertilizers & Soil Health Card Scheme:** Emphasize balanced nutrient input and tailored **soil management** through diagnostics and farmer guidance.
- **Technological & Digital Infrastructure:**
  - **iFMS (Integrated Fertilizer Management System):** Enables real-time tracking of fertilizer movement from production to retail.
  - **mFMS (Mobile FMS):** Facilitates dealer registration, stock monitoring, and supports DBT through MIS dashboards accessible via mobile.

## What are the Challenges in Categorizing the Fertilizer Sector as 'Strategic'?

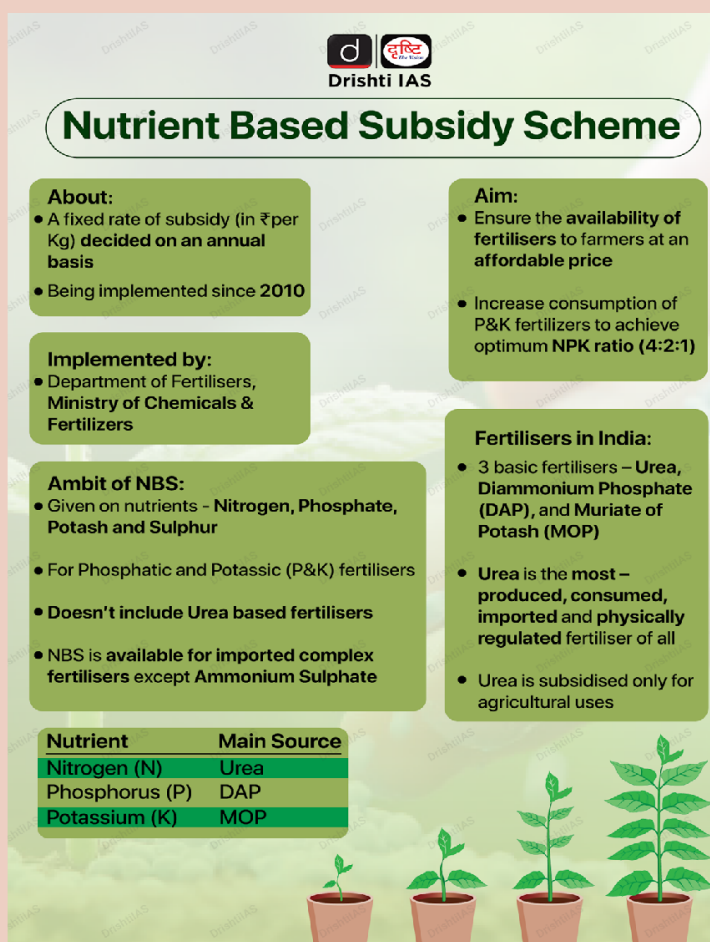
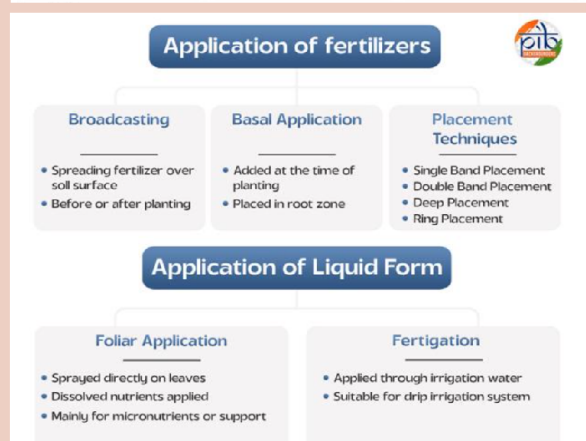
- **Global Integration and Supply Diversification:** India has secured **long-term DAP supply agreements with Saudi Arabia and Morocco**, reducing the pressure to maintain large strategic production reserves.
- **Technological Obsolescence:** Older PSU plants suffer from **low efficiency, high input costs**, and require **heavy capital** for modernization.
  - This raises doubts about whether strategic status would yield productivity gains without major reform.
  - Some PSUs continue to operate at **sub-optimal capacity** due to raw material constraints, pricing mismatches, or outdated technology—further weakening the strategic case.
- **Policy Inconsistency and Sectoral Ambiguity:** The contradiction between treating fertilizers as **essential to food security** (by the Agriculture Ministry) versus a **non-strategic commercial sector** (by [DIPAM](#)) reflects policy incoherence.
  - This makes **inter-ministerial consensus difficult** and slows reform momentum.

## How can India Make its fertilizer Sector Self-Reliant?

- **Boost Domestic Production:** Under **New Investment Policy (NIP) 2012** ensure existing units operate profitably and revive closed plants to reduce import dependence.
- **Innovation & Sustainability:** Invest in research and development for new fertilizer formulations, eco-friendly production, and efficient resource use.
  - Promote use of bio-fertilizers and nano-fertilizers through **PM-PRANAM Scheme** and **Pradhan Mantri Kisan Samridhi Kendras (PMKSKs)**.
- **Promote Public-Private Collaboration:** Encourage partnerships for innovation, investment, and increased production capacity.
- **Regional Manufacturing Hubs:** Establish **fertilizer clusters** near key agricultural zones to cut logistics costs and ensure quicker distribution.
- **Financial Incentives:** Introduce a **PLI (Production Linked Incentive) scheme** for **nano-fertilizer production** to incentivize manufacturers and accelerate adoption.
  - Integrate **nano-fertilizers into national nutrient management programs** to complement conventional fertilizers and reduce import dependence.

**Fertilizers**

Fertilizers are concentrated inorganic plant nutrients that supply essential elements for growth. Unlike organic manure, they contain higher nutrient levels and are applied in smaller amounts.



### ***Drishti Mains Question:***

**Q.** Critically examine the need to classify the fertilizer sector as strategic in the context of India's food security and Atmanirbhar Bharat agenda.

## **UPSC Civil Services Examination, Previous Year Questions (PYQs)**

### ***Prelims***

**Q. With reference to chemical fertilizers in India, consider the following statements: (2020)**

1. At present, the retail price of chemical fertilizers is market-driven and not administered by the Government.
2. Ammonia, which is an input of urea, is produced from natural gas.
3. Sulphur, which is a raw material for phosphoric acid fertilizer, is a by-product of oil refineries.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 and 3 only
- (c) 2 only
- (d) 1, 2 and 3

Ans: (b)

**Q. Why does the Government of India promote the use of 'Neem-coated Urea' in agriculture? (2016)**

- (a) Release of Neem oil in the soil increases nitrogen fixation by the soil microorganisms.
- (b) Neem coating slows down the rate of dissolution of urea in the soil.
- (c) Nitrous oxide, which is a greenhouse gas, is not at all released into atmosphere by crop fields.
- (d) It is a combination of a weedicide and a fertilizer for particular crops.

Ans: (b)

PDF Reference URL: <https://www.drishtiias.com/printpdf/fertilizer-sector-in-india>

