



## FERTILIZER SECTOR IN INDIA

Parliamentary committee urges **reclassification of fertilizer sector as 'strategic'** for agricultural productivity, food security and **Atmanirbhar Bharat**.

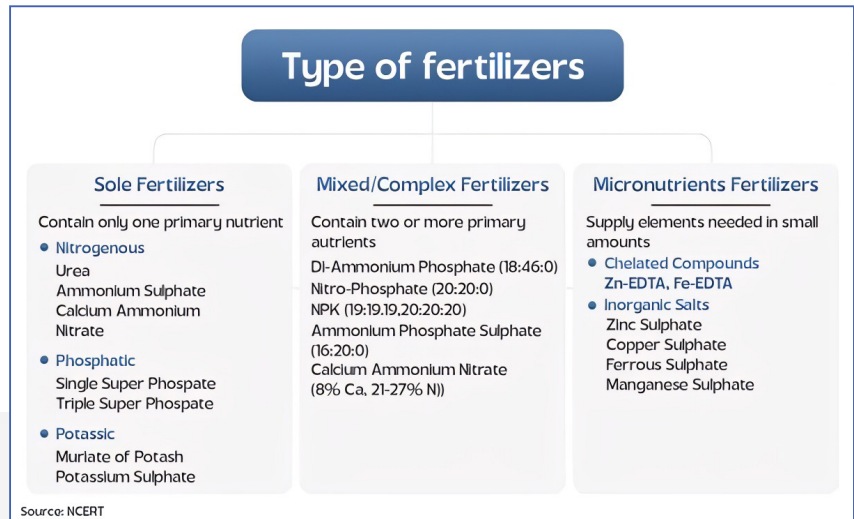
⌘ **Department of Investment and Public Asset Management (DIPAM)** has denied strategic status.

### Observations

- ⌘ **High import dependency:** 25% urea, 90% phosphates, 100% potash.
- ⌘ **PSUs contribute 25% of urea & 11% of non-urea production.**
- ⌘ **Private sector dominates**, with PSUs acting as price stabilizers for small farmers.

### Recommendations

- ⌘ Classify **fertilizer sector as 'strategic'** to attract investment
- ⌘ **Launch a mission** to upgrade technology, diversify products, and adopt sustainable practices in PSUs.
  - ❖ **Revived PSUs** have added 7.62 MT to annual urea production.



### Challenges in Categorizing as 'Strategic'

- ⌘ **Global Integration:** Long-term DAP supply agreements reduce reserve pressure.
- ⌘ **Technological Obsolescence:** PSU plants need modernization to boost efficiency.
- ⌘ **Policy Inconsistency:** Divergence in policy between ministries slows reform.

### Fact Sheet

- Agriculture contributes **~16% to GDP** and **supports 46% of the population**.
- India is the **2<sup>nd</sup> largest fertilizer user** and **3<sup>rd</sup> largest producer**.
- India is **self-sufficient in 87% of urea, 90% of NPK, and 40% of DAP**, while **MOP remains 100% imported**.
- **2023-24:** 601 LMT of fertilizers consumed, with 503 LMT produced domestically (up from 385.39 LMT in 2014-15).

## Evolution Towards Sustainability & Self-Reliance

- ⌘ **ONOF:** Standardizes fertilizer branding for quality and government support.
- ⌘ **NBS Scheme and Urea Subsidy Scheme**
- ⌘ **Sustainable Practices:**
  - ❖ **Nano-fertilizers (nano urea, nano DAP):** Slow-release for better absorption and minimal waste.
  - ❖ **Neem-Coated Urea:** Improves nitrogen efficiency, requiring **~10% less urea to achieve comparable results**
  - ❖ **PM-PRANAM:** Promotes organic alternatives with state incentives.
  - ❖ **Bio-fertilizers & Soil Health Cards:** Tailored nutrient input and soil management.
- ⌘ **Tech Infrastructure:**
  - ❖ **iFMS:** Real-time tracking of fertilizer movement.
  - ❖ **mFMS:** Facilitates dealer registration and stock monitoring.

## Way Forward

- ⌘ **Boost Domestic Production:** Revive closed plants and ensure profitable operation (New Investment Policy 2012).
- ⌘ **Innovation & Sustainability:** Invest in eco-friendly production and new formulations (PM-PRANAM).
- ⌘ **Public-Private Collaboration:** Foster partnerships for growth.
- ⌘ **Regional Hubs:** Establish manufacturing clusters near agricultural zones.
- ⌘ **Financial Incentives:** Introduce PLI scheme for nano-fertilizers to boost adoption.

## INVASIVE ALIEN SPECIES

A study estimates the global economic cost of Invasive Alien Species (1960–2022) at over USD 2.2 trillion, with management costs underreported by up to 16 times. In India, the hidden cost is 1.16 billion times higher than reported.

Invasive Alien Species in India

**Animals** like African catfish, Nile tilapia, Red-bellied piranha, alligator gar, Red-eared Slider

**Plants** like Lantana, Water Hyacinth, Prosopis juliflora

### FACTORS RESPONSIBLE FOR THE RISE OF INVASIVE ALIEN SPECIES

#### Globalization

Trade and travel unintentionally spread species (e.g., Zebra mussels in North America through ballast water)

#### Climate Change

Temperature and precipitation changes create favorable conditions for IAS, making native species vulnerable (e.g., invasive insects, aquatic species)

#### Habitat Disturbance

Human activities (deforestation, urbanization) create spaces for IAS to thrive (e.g., carrot grass in disturbed areas)

#### Human Introduction

Species deliberately introduced for gardening, aquaculture, etc., often leading to ecological damage (e.g., Water Hyacinth)

### Key Impacts of IAS

#### ⌘ Ecological

- ❖ Among Top 5 global drivers of biodiversity loss.
- ❖ Eg: Brown tree snake in Guam → extirpation of native forest birds.

#### ⌘ Economic

- ❖ Huge global burden, especially on agriculture, forestry, fisheries in developing nations.
- ❖ Plants = most costly (Mgmt cost: USD 926.38 billion) > Arthropods > Mammals.
- ❖ Eg: Water hyacinth in Lake Victoria → tilapia depletion → fisheries loss.
- ❖ Europe = 71.45% of global IAS cost, due to high agricultural & mgmt expenses.

#### ⌘ Health

- ❖ IAS like *Aedes albopictus*, *A. aegypti* = vectors of malaria, Zika, West Nile.
- ❖ Allergenic/toxic species (e.g., *Parthenium*) → respiratory & skin disorders.
- ❖ Crop contamination by invasive weeds → toxic alkaloids in food chains.

#### ⌘ Threat Multiplier

- ❖ Alter fire regimes, reduce carbon sequestration, degrade climate regulation.
- ❖ Climate change speeds IAS spread → reduces ecosystem resilience & adaptability.

## Global Initiatives

- ⌘ **CBD (Convention on Biological Diversity):** Guidelines for IAS control and eradication.
- ⌘ **Kunming-Montreal Framework:** Target to reduce IAS impacts by 50% by 2030.
- ⌘ **IUCN:** Manages Global Invasive Species Database.
- ⌘ **CITES:** Regulates international trade of wild species.

## India-Specific Initiatives

- ⌘ **National Biodiversity Action Plan (NBAP):** Focus on IAS prevention.
- ⌘ **National Action Plan on Invasive Alien Species (NAPINVAS):** Prevention, control, management of IAS (MoEFCC).
- ⌘ **Plant Quarantine Order (2003):** Regulates plant imports to prevent IAS introduction (Department of Agriculture and Cooperation).
- ⌘ **WPA, 1972:** Defines IAS

## Challenges and Solutions

### ⌘ Data Gaps & Resource Constraints

- ❖ **Challenge:** Fragmented data and limited resources hinder control efforts.

- ❖ **Solution:** Create a centralised database and allocate dedicated funding and staff for effective surveillance and eradication.

#### ⌘ **High Eradication Costs**

- ❖ **Challenge:** Removing species like Lantana and Prosopis is resource-intensive.
- ❖ **Solution:** Use cost-effective biological control methods and engage local communities, like the Kadar tribe in Kerala, for restoration.

#### ⌘ **Policy Gaps:**

- ❖ **Challenge:** Fragmented coverage under the Biodiversity Act, 2002, WPA, and Plant Quarantine Rules, with weak enforcement of biosecurity norms.
- ❖ **Solution:** Strengthen enforcement and integrate invasive species management into broader national biodiversity and climate policies (NAPCC).

## **NATIONAL PHARMACEUTICAL PRICING AUTHORITY**

The **Parliamentary Standing Committee criticized NPPA** for approving a 50% price hike on 11 essential drugs in 2024 under the **Drugs Prices Control Order, 2013** guided by **CAMPH, NITI Aayog**.

### **Observations**

- ⌘ **Public Health Impact:** Concerns about the negative effects of price hikes on public health and medicine affordability.
- ⌘ **Limited Justification:** NPPA's rationale (cost of production, APIs, exchange rates) didn't adequately address affordability.
- ⌘ **Regulatory Gaps in Cancer Drug Pricing:** Many oncology drugs remain outside price control, making them unaffordable for patients.

### **Recommendations**

- ⌘ **Reevaluate Price Hike Mechanism:** NPPA should ensure future price hikes are reasonable and affordable.
- ⌘ **Expand Price Control on Critical Drugs:** Include more oncology drugs under price control for wider access.
- ⌘ **Strengthen Oversight on Non-Essential Drugs:** Limit price hikes on non-essential drugs to 10% annually without justification by manufacturers.
- ⌘ **Regular Monitoring:** Continuously monitor drug prices and expand price control coverage.

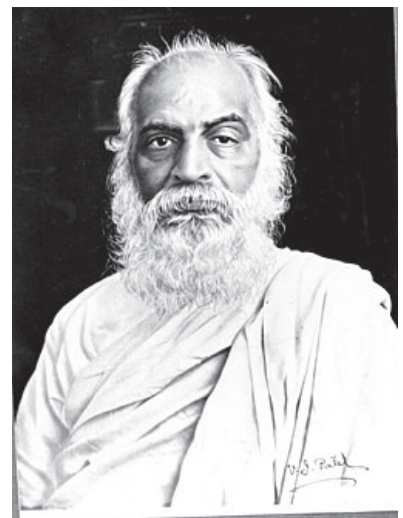
#### **NPPA**

- **Role:** Independent regulator for drug pricing – balancing affordability and industry growth.
- **Established:** 1997 under the Ministry of Chemicals & Fertilizers.
- **Outreach:** Operates Price Monitoring Units in 31 States/UTs and offers platforms like **Pharma Sahi Dam** and **Pharma Jan Samadhan** for transparency and grievance redressal.
  - ♦ Has developed **Integrated Pharmaceutical Database Management System 2.0 (IPDMS)**.
- **Industry Value:** Indian pharma industry worth \$50 billion (2023–24), projected to reach \$130 billion by 2030.

## **VITHALBHAI PATEL**

**All India Speakers' Conference** was hosted by the Delhi Legislative Assembly to mark the **100<sup>th</sup> anniversary** of **Vithalbhai Patel** becoming **President of the Central Legislative Assembly**.

- ⌘ **Early Life:** Brother of Sardar Vallabhbhai Patel; studied law in England and practiced in Bombay.
- ⌘ **Political Career:**
  - ❖ Elected to Bombay Legislative Council (1912) and Imperial Legislative Council (1918).
  - ❖ Co-founded the Swaraj Party in 1923 along with C.R. Das and Motilal Nehru.
  - ❖ Became President of the Central Legislative Assembly in 1925 (member in 1924).
- ⌘ **Contributions to India's Parliamentary Traditions:**
  - ❖ Introduced the **ward and watch system for Parliament** security, ensuring Speaker's control, which continued until 2024.
  - ❖ Preserved Speaker's authority after the 1929 bombing incident (Bhagat Singh, Batukeshwar Dutt).
  - ❖ Established an independent Parliament Secretariat, reporting solely to the Speaker.
  - ❖ Created a separate Legislative Assembly Department in 1929 to strengthen the Speaker's autonomy.



GENETIC DETERMINANTS OF RICE QUALITY AND RESILIENCE

Scientists in China have identified the **Chalk9** gene, which causes **rice chalkiness**, making grains brittle and opaque during milling, **reducing yield and market value**.

OTHER KEY GENETIC DETERMINANTS		
Gene/ Quantitative Trait Locus	Function	Trait Significance
Pi54, Pi9	Blast disease resistance	Used in <b>breeding for broad, durable disease tolerance</b>
BADH2	Aroma regulation	Unique to <b>fragrant rice</b> , marker for premium varieties
Sd1	Plant height (semi-dwarfing)	Central to <b>Green Revolution</b> , boosts yield, reduces lodging
Saltol QTL	Salt tolerance (seedling stage)	Important for <b>coastal &amp; saline areas</b> , key for <b>stress-resilient breeding</b>

INTERNATIONAL BIG CAT ALLIANCE

- Nepal has officially joined IBCA.**
- ⌘ **Purpose:** A global coalition of 96+ countries dedicated to conserving 7 big cat species and their habitats.
  - ⌘ **Founded:** Proposed by India’s PM in 2019, launched in April 2023 (Mysuru, Karnataka).
  - ⌘ **Focus Species:** Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar, Puma.
    - ❖ Puma and Jaguar are **not found in India**.
  - ⌘ **Objective:** Curb illegal wildlife trade, conserve habitats, mobilize resources, and mitigate climate change impacts.
  - ⌘ **Governance:** Similar to the International Solar Alliance (ISA), with a decision-making Assembly, Standing Committee, and Secretariat in India (New Delhi).

SIR BANI YAS ISLAND

- A 1,400-year-old Christian cross found on **Sir Bani Yas Island, Abu Dhabi**, along with similar artifacts in Iraq and Kuwait, highlights **Gulf cultural harmony (Church of the East)**.
- ⌘ **Largest island in Abu Dhabi’s Al Dhafra Region;** became a nature reserve in 1971, now the Arabian Wildlife Park.
  - ⌘ One of the earliest records from 1590 by Gasparo Balbi mentioned its pearl trade, lasting until the early 20<sup>th</sup> century.

