



Aatmanirbhar in Diammonium Phosphate (DAP)

Why in News?

As a part of the Union Government [Aatma Nirbhar Bharat's](#) initiative to promote self-sufficiency in Fertilizers, it is advising and supporting the Indian fertilizer companies to strengthen their backend supply chain.

What is the Status of Fertilizer Industry in India?

- **Importance of Fertilizer:**
 - [Agriculture](#), including its allied sector, is the **largest source of income in India**, the sector contributes 19.9% to the country's GDP, with 54.6% of the population engrossed in agricultural activities.
 - The agricultural sector largely depends on the [fertilizer industry](#), which manufactures some of the **most important raw materials required for the production of crops**.
 - In addition, the Indian **fertilizer industry is of great importance** because it produces **phosphorus fertilizers** such as [Diammonium Phosphate \(DAP\)](#), **monoammonium phosphate (MAP)**, **nitrogen, phosphorus, and potassium (NPKs)**, and **single superphosphate (SSP)** which aids in the development of healthy crops.
- **Issue:**
 - The country largely depends on **phosphate rock**, a **common and key raw material** sourced mainly from Rajasthan and Madhya Pradesh. However, **India imports 90% of its phosphate from other countries**.
- **Fertilizer Manufacturing in India:**
 - [Indian Farmers Fertiliser Cooperative Limited \(IFFCO\)](#), a multi-state cooperative society headquartered in the nation's capital, is the largest fertilizer manufacturer and marketer.
 - **National Fertilizers Limited**, a state-owned corporation, is another of the largest producer of urea with a share of about 15% of total urea production in the country.
- **Initiatives:**
 - [Neem Coating of Urea](#)
 - [New Urea Policy \(NUP\) 2015](#)
 - [The Nutrient Based Subsidy \(NBS\) Scheme](#).

What is Diammonium Phosphate DAP?

- DAP is the **second most commonly used fertiliser in India after urea**.
- Farmers normally apply this fertiliser just before or at the beginning of sowing, as it is **high in phosphorus (P) that stimulates root development**.
- DAP (46% P, 18% Nitrogen) is the preferred source of Phosphorus for farmers. This is **similar to urea**, which is their **preferred nitrogenous fertiliser** containing 46% N.

What are the Initiatives taken to Resolve DAP Dependency?

- **Encourage joint ventures abroad:**
 - India's leading phosphatic fertilizer player formalized the acquisition of a 45% equity share in Baobab Mining and Chemicals Corporation (BMCC), a **rock phosphate mining**

company based in Senegal.

- Further, the mining will be done in Senegal, and production of DAP will be done in India
- The government of India has been partnering with the industry to enable such investments to achieve supply security goals for meeting the country's fertilizer needs.
- **Explore potential potassic ore resources Domestically:**
 - The Department of Mining and Geological Survey planned to expedite exploration of potential potassic ore resources in Rajasthan's Satpura, Bharusari, and Lakhasar, and other states including Uttar Pradesh, Madhya Pradesh, Rajasthan, Gujarat, Andhra Pradesh, and Karnataka.

UPSC Civil Services Previous Year Question (PYQ)

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)

Exp:

- The Government of India subsidizes fertilizers to ensure that fertilizers are easily available to farmers and the country remains self-sufficient in agriculture production. The same has been achieved largely by controlling the price of fertilizer and the amount of production. Hence, statement 1 is not correct.
- Ammonia (NH_3) has been synthesized from natural gas. In this process, natural gas molecules are reduced to carbon and hydrogen. The hydrogen is then purified and reacted with nitrogen to produce ammonia. This synthetic ammonia is used as fertilizer, either directly as ammonia or indirectly after synthesis as urea, ammonium nitrate, and monoammonium or diammonium phosphates. Hence, statement 2 is correct.
- Sulfur is a major by-product of oil refining and gas processing. Most crude oil grades contain some sulfur, most of which must be removed during the refining process to meet strict sulfur content limits in refined products. This is done through hydrotreating and results in production of H_2S gas, which is converted into elemental sulfur. Sulfur can also be mined from underground, naturally-occurring deposits, but this is more costly than sourcing from oil and gas and has largely been discontinued. **Sulfuric acid is used in the production of both Monoammonium Phosphate (MAP) and Diammonium Phosphate (DAP). Hence, statement 3 is correct. Therefore, option (b) is the correct answer.**

Source: PIB

