

POTASH MINING IN INDIA - ECONOMY

NEWS: *Surveys conducted by the Geological Survey of India (GSI) have identified **potash reserves in Rajasthan**, presenting an opportunity to decrease India's dependence on imports.*

WHAT'S IN THE NEWS?

What is Potash?

- Potash refers to **minerals that contain potassium**, which is an essential nutrient for plant growth.
- It is **primarily used in fertilizers**, with **around 90% of total potash production** being utilized for this purpose.

Applications of Potash

a) Role in Fertilizers

- Potash is **one of the three essential nutrients** found in **NPK fertilizers** (Nitrogen, Phosphorus, and Potassium).
- It **enhances plant growth, increases crop yield, and improves resistance to diseases and drought.**

b) Water Treatment

- **Potash alum** is widely used for **purifying water** by **removing hardness** and **acting as an antibacterial agent** to eliminate harmful microorganisms.

c) Industrial Applications

- Potash is used in the **manufacturing of glass ceramics**, improving their durability and transparency.
- It is an important ingredient in **soaps and detergents**, helping in the saponification process to break down grease and dirt.
- The **explosives industry** uses potash for the production of **potassium nitrate**, a key component in gunpowder and fireworks.



Types of Potash Fertilizers

a) Sulphate of Potash (SOP)

- SOP is a **premium, chloride-free fertilizer** that is mainly used for **sensitive crops such as fruits and vegetables**.
- It provides potassium **without adding chloride**, which can be harmful to some plants in excessive amounts.

b) Muriate of Potash (MOP)

- MOP contains **chloride** and is the **most commonly used potash fertilizer**.
- It is particularly **suitable for carbohydrate-rich crops like wheat, sugarcane, and corn**, which can tolerate higher chloride levels.

Potash Reserves in India

- **India has significant potash reserves**, particularly in the states of **Punjab and Rajasthan**.
- These reserves have the potential to reduce India's dependence on imports and strengthen domestic production.

a) Potash Reserves in Punjab

- Potash deposits have been identified in the **Fazilka and Sri Muktsar Sahib districts**.

b) Potash Reserves in Rajasthan

- The **Nagaur-Ganganagar Basin** holds vast potash deposits.
- Major reserves are located in **Ganganagar, Hanumangarh, Churu, and Bikaner districts**.
- Rajasthan alone contributes **about 89% of India's total estimated potash reserves**.

Why is Potash Mining Important for India?

a) Reducing Import Dependence

- India currently **imports around 50 lakh tonnes of potash annually** to meet its agricultural and industrial needs.

- Domestic production would **reduce reliance on foreign sources** and **save valuable foreign exchange**.
- b) Boosting the Domestic Fertilizer Industry**
- Strengthening **domestic potash production** would lead to **greater agricultural self-reliance**.
 - It would ensure a **stable supply of fertilizers** at competitive prices for Indian farmers.
- c) Economic Benefits**
- The development of potash mines would lead to **job creation**, benefiting local communities.
 - **Regional economic growth** would be boosted by mining-related industries and investments.

Challenges and Concerns

a) Environmental and Land Issues

- The potash deposits in Punjab are located **deep underground, about 450 meters below the surface**.
- **Farmers fear land acquisition and displacement**, which could affect their livelihoods.
- There are concerns regarding **potential environmental impacts** such as groundwater contamination and soil degradation.

b) Government's Approach

- The government has assured that **advanced drilling techniques** with **zero land impact** will be used to extract potash.
- An **Environmental and Social Impact Assessment (ESIA)** is currently being conducted to address these concerns.

Government Policy and Classification

a) Nutrient-Based Subsidy (NBS) Policy

- Under the **NBS scheme**, the government provides **subsidies to fertilizer companies** based on the actual nutrient content of fertilizers (**N, P, K**).
- This ensures **affordable pricing for farmers** while promoting the **balanced use of fertilizers**.

b) Recognition as a Critical Mineral

- Potash was **classified as a 'critical mineral'** under the **Mines & Minerals (Development and Regulation) Amendment (MMDR) Act, 2023**.
- This recognition aims to **boost domestic production, reduce dependency on imports, and promote private sector investment in mining activities**.

Conclusion

- Potash is an **essential mineral for agriculture and various industries**.
- With **large reserves in India**, especially in **Punjab and Rajasthan**, there is **significant potential for self-sufficiency** in potash production.
- While potash mining offers **economic benefits**, it also presents **environmental and social challenges** that need to be carefully managed.
- The **government's policies and subsidies** will play a crucial role in **balancing economic growth, sustainability, and the interests of farmers**.

Source: <https://indianexpress.com/article/explained/potash-reserves-punjab-fertilisers-mining-9823651/>