



Quick Glance

- **China Lifts Ban on Rare Earth Exports**
- **Mines & Minerals (Amendment) Bill, 2025**



Economy

China Lifts Ban on Rare Earth Exports

Context

China has lifted export restrictions on **rare earth magnets, fertilisers, and tunnel boring machines** to India, following high-level diplomatic engagement including talks between FM Jaishankar and Wang Yi

Key Details

- ◆ Shipments of these critical inputs have already begun, marking swift response to India's supply concerns.
- ◆ **Rare earth magnets** are vital for sectors like electric vehicles, electronics, defence, aerospace, healthcare, and renewable energy — their availability had previously been severely constrained.
- ◆ **Fertiliser imports**, especially Di-Ammonium Phosphate (DAP), were disrupted ahead of the Rabi season; easing of curbs will help stabilise agricultural supply chains.

What is Rare Earth Magnet?

Composition: Made from rare earth elements (Lanthanides), mainly Neodymium (Nd), Samarium (Sm), and Dysprosium (Dy), combined with iron and boron.

Types:

- Neodymium–Iron–Boron (NdFeB): Strongest permanent magnet known.
- Samarium–Cobalt (SmCo): High resistance to heat and corrosion.

Applications:

- Electronics: Mobile phones, laptops, hard drives.
- Energy: Wind turbines, EV motors, solar inverters.
- Healthcare: MRI machines, medical devices.
- Defence & Space: Precision-guided missiles, satellites, radar.

Significance: Though rare earths are not geologically scarce, processing & refining are concentrated in China, making supply geopolitically sensitive.



Significance

- ◆ Ensures **continuity of production** across automotive, electronics, renewable energy, and infrastructure sectors heading into the festive season.
- ◆ Represents a **strategic economic gesture** amid regional tensions, reflecting a delicate balancing act between geopolitical rivalry and mutual economic interests.
- ◆ Provides **relief to farmers** by easing fertiliser supply critical during the Rabi cropping period

Challenges

- ◆ India remains **heavily dependent** (~90%) on Chinese imports for rare earth magnets, despite having the fifth-largest reserves globally — domestic value chain remains underdeveloped.
- ◆ There is **uncertainty** whether this move includes full-fledged license waivers or selective approvals, making long-term stability unclear.
- ◆ **Geopolitical mistrust** remains — border tensions and U.S. pressure may cap future bilateral economic overtures.

Way Forward

- ◆ Accelerate development of **domestic rare earth processing and magnet manufacturing** through strategic incentives and public-private partnerships.
- ◆ **Diversify procurement sources**, building ties with countries like Vietnam, Brazil, and Russia to reduce dependency on China.
- ◆ Ensure **transparent, expedited export licensing mechanisms** and deepen diplomatic engagement to build resilience in supply chains.



SYLLABUS

Syllabus Mapping:

- GS Paper I – Geography - Distribution of key natural resources across the world
- GS Paper II – International Relations - India–China Relations: Trade, strategic dependencies
- GS Paper III – Science & Technology: Strategic minerals for electronics, defence, and green technologies.



Economy

Mines & Minerals (Amendment) Bill, 2025

Context

Parliament has passed the **Mines and Minerals Amendment Bill, 2025**, updating the 1957 Act and introducing significant reforms to modernise India's mineral sector



Key Details

- ◆ Flexible Lease Expansion: Leaseholders can now apply to include additional minerals—especially **critical ones** like lithium, graphite, cobalt, gold, and silver—into existing leases without paying extra for inclusion.
- ◆ Expanded Trust Scope: The National Mineral Exploration Trust is renamed the **National Mineral Exploration and Development Trust** and can now fund mine development both domestically, offshore, and internationally.
- ◆ Removal of Retail Constraints: The prior cap restricting captive mines from selling more than 50% of their production has been lifted, enabling greater market flexibility. States can now also allow sales from mineral dumps.



- ♦ Innovation in Trading: A new authority will be established to register and regulate mineral exchanges, facilitating fair and transparent mineral trading.

Significance

- ♦ Boosts **Critical Mineral Access**: Supporting India's green transition and self-reliance through easier access to essential minerals.
- ♦ Enhances Private Sector Role: Encourages **investment** by easing regulatory burdens and expanding lease use.
- ♦ Improves Transparency: Mineral exchanges and enhanced trust mechanisms promote fair trade and systematic development.

Challenges

- ♦ Implementation Details: Operational clarity is needed around **procedures** for variant mineral additions and trust governance.
- ♦ Environmental Concerns: Expansion into critical mineral production, especially offshore, raises **ecological questions**.
- ♦ State-Centre Coordination: Harmonising policy across geographies and jurisdictions remains a complex task.

What are Critical Minerals

Definition: Minerals essential for economic development and national security, with high supply-chain risks due to limited availability or concentration in a few countries.

Examples (India's focus list – 30 identified in 2023): Lithium, Cobalt, Nickel, Graphite, Rare Earth Elements, Platinum Group Metals, Potash, Phosphates.

Global Context:

- China dominates rare earth processing.
- Australia, Chile, Argentina → Lithium Triangle.
- DRC → major source of Cobalt.

Indian Context:

- India imports most of its critical minerals.
- National Critical Minerals Mission (2023): roadmap for securing supplies.
- Collaboration with Australia, US, and Japan under Quad Critical Minerals Partnership.





SYLLABUS

Syllabus Mapping:

- GS Paper II – Governance - Regulatory reform, public-private partnerships
- GS Paper III – Economy - Mineral sector growth, strategic resource management
- GS Paper I – Environment - Critical minerals for green transition, eco-governance



Jan Suraksha Schemes

- ♦ Launched: 2015 to provide affordable social security.
- ♦ Three schemes:



1. Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY): ₹2 lakh life insurance, annual premium ₹436.
2. Pradhan Mantri Suraksha Bima Yojana (PMSBY): ₹2 lakh accidental insurance, annual premium ₹20.
3. Atal Pension Yojana (APY): Pension scheme (age 18–40), govt co-contribution for eligible subscribers

One District One Product (ODOP)

- ♦ Launched by: Ministry of Food Processing Industries (MoFPI), aligned with Atmanirbhar Bharat.
- ♦ Objective: Promote specialized product(s) from each district → boost local economy, branding, exports.
- ♦ Focus: Agro-products, handicrafts, handlooms, industrial goods unique to the district.
- ♦ Integration: Linked with PM Formalisation of Micro Food Processing Enterprises (PMFME) Scheme.
- ♦ Significance: Improves rural employment, enhances value chain, supports Make in India & Vocal for Local.





Practice Corner

1. Recently, China lifted export restrictions on which of the following items to India?

1. Rare earth magnets
2. Fertilisers
3. Tunnel boring machines
4. Crude oil

Select the correct answer:

- (a) 1 and 2 only
- (b) 1, 2 and 3 only
- (c) 1, 3 and 4 only
- (d) 1, 2, 3 and 4

2. With reference to **rare earth magnets**, consider the following statements:

1. They are vital for electric vehicles, renewable energy, electronics, defence, and healthcare sectors.
2. India is self-sufficient in rare earth magnets due to its fifth-largest reserves globally.
3. China currently dominates global rare earth processing and supply chains.

Which of the above statements is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only

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

3. Which of the following is/are suggested as part of India's **way forward** to reduce dependence on China for critical supplies?

1. Develop domestic rare earth processing and magnet manufacturing.
2. Diversify imports from countries like Vietnam, Brazil, and Russia.
3. Establish transparent and faster licensing mechanisms.
4. Rely solely on the U.S. for strategic minerals.

Select the correct answer:

- (a) 1, 2 and 3 only
- (b) 1 and 2 only
- (c) 2, 3 and 4 only
- (d) 1, 2, 3 and 4

4. Which of the following elements are classified as **Rare Earth Elements (REEs)**?

1. Lanthanum
2. Neodymium
3. Samarium
4. Tungsten



Select the correct answer:

- (a) 1, 2 and 3 only
- (b) 2, 3 and 4 only
- (c) 1 and 4 only
- (d) 1, 2, 3 and 4

5. Which of the following are major applications of Rare Earth Magnets?

- 1. Electric Vehicle motors
- 2. Wind turbines
- 3. Smartphones and laptops
- 4. Fertiliser production

Select the correct code:

- (a) 1, 2 and 3 only
- (b) 1 and 4 only
- (c) 2 and 4 only
- (d) 1, 2, 3 and 4

6. Which of the following best explains why rare earth minerals are "critical" for modern economies?

- (a) They are essential for fertilizers and agriculture.
- (b) They are required in trace amounts for green technologies, defence, and high-end electronics.
- (c) They are abundant and easily substitutable.
- (d) They are used only in jewellery and ceramics.

7. With reference to Critical Minerals, consider the following statements:

- 1. They are minerals essential for economic development and national security.
- 2. Their supply chains are vulnerable due to limited availability or concentration in a few countries.
- 3. India is fully self-sufficient in critical minerals due to its vast domestic reserves.

Which of the above statements is/are correct?

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

8. The term "Lithium Triangle" often seen in news refers to:

- (a) Australia, Chile, and Argentina
- (b) Bolivia, Chile, and Peru
- (c) China, Mongolia, and Kazakhstan
- (d) Brazil, Argentina, and Uruguay

9. Which country is the major global source of Cobalt, a critical mineral essential for batteries?

- (a) Brazil
- (b) Democratic Republic of Congo (DRC)
- (c) South Africa
- (d) Kazakhstan



Answer Key (19th August 2025)

1	D	5	A	9	D
2	B	6	A		
3	B	7	D		
4	B	8	B		

