



Status of Critical Minerals in India

Why in news?

The Centre for Social and Economic Progress (CSEP) in its report have cited concerns about poor critical mineral supply chain management.

What are critical minerals?

- **Critical Minerals** - [Critical minerals](#) refer to mineral resources, which are essential inputs in the production process of an economy.
- Critical minerals includes both primary and processed minerals.
- Centre for Social and Economic Progress (CSEP) in its recent report notified 23 minerals as critical minerals.
- Minerals such as antimony, cobalt, gallium, graphite, lithium, nickel, niobium, and strontium are among the 22 assessed to be critical for India.
- Many of these are required to meet the manufacturing needs of green technologies, high-tech equipment, aviation, and national defense.

Three-fifths of rare earth minerals, essential for clean energy, electronics, and defense technologies, are mined in China.

What are the challenges to critical minerals supply chains?

- **China** - China being an important player in the critical minerals supply chains and it is yet to overcome the effects of covid-19 and so India faces short falls in the supply
- **Russia-Ukraine war** - Russia being significant producers of nickel, palladium, titanium sponge, & scandium and Ukraine being producer of titanium, the [war](#) has disrupted the supply chains.
- **Power shifts** - Due to low supply from Russia and china the developed countries have drawn up plans such as [Minerals Security Partnership \(MSP\)](#) and G7's Sustainable Critical Minerals Alliance.
- **Demand for green technologies** - Since India lacks the critical minerals requirement demand for the green technologies it has depend on other countries.
- **Geographic hurdles** - The geographic concentration of mining and processing of the minerals may also adversely impact their availability.
- **Trade agreements** - Lack of trade agreements with other mineral-endowed countries.
- **Private sector** - Lack of private sector involvement in the critical mining industries.

- **Multilateral Minerals Security Partnership (MSP)** - India is not a part of it which brings countries together to build robust critical minerals supply chains needed for climate objectives.
- **Periodic assessments** - Lack of periodic assessments for critical minerals to be sustainable.

India requires a critical minerals strategy comprising measures aimed at making the country Atmanirbhar (self-reliant) in critical minerals needed for sustainable economic growth and green technologies.

What is the way forward?

- India needs to explore the unexplored critical minerals.
- At present critical minerals can be processed only by the public sectors.
- Hence, the Mines and Minerals (Development and Regulation) (MMDR) Act 1957 needs to be amended to exclude the critical minerals as atomic minerals.
- The assessment of critical minerals for India needs to be updated every three years to keep pace with changing domestic and global scenarios.
- Critical minerals must be prospected, explored, and mined on priority as any delays may hinder India's emissions reduction and climate change mitigation timeline.
- Reconnaissance and exploration of minerals must be encouraged, with particular attention given to deep-seated minerals.

Quick facts

Minerals Security Partnership (MSP)

- MSP focuses on critical minerals that are inputs for electric vehicles and advanced batteries.
- Australia, Canada, Finland, France, Germany, Japan, Korea, Sweden, the United Kingdom, the United States, and the European Union have joined the MSP.

The Centre for Social and Economic Progress (CSEP)

- CSEP is based in New Delhi and registered as a company limited by shares and not for profit, under Section 8 of the Companies Act, 1956.
- The mission of CSEP is to conduct research and analysis on urgent and critical policy issues and offer solutions that are both relevant and practical.

References

1. [IEA|About Minerals Security Partnership \(MSP\)](#)
2. [The Indian Express|India's Challenges To Critical Minerals](#)
3. [CSEP|About CSEP](#)
4. [Hindustan Times|India's Status Of Critical Minerals](#)



IAS PARLIAMENT

Information is Empowering

A Shankar IAS Academy Initiative