



## EDITORIAL: THE HINDU

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### CHINA'S MOVES MUST RECAST INDIA'S CRITICAL MINERALS PUSH

#### China's Strategic Export Control of Critical Minerals

- China has long demonstrated its ability to weaponize critical mineral exports to advance its geopolitical and economic interests. Recent moves, such as the January 2, 2025, decision by China's Ministry of Commerce to expand its export control list to include 28 U.S.-based entities, underscore this strategy. Minerals like tungsten, gallium, magnesium, beryllium, hafnium, and lithium-6—crucial for semiconductors, aerospace, batteries, and advanced electronics—are now subject to tighter export controls.
- China has a history of leveraging its dominance in the critical minerals supply chain, such as the rare earth embargo against Japan in 2010 and recent restrictions on gallium and germanium exports. In December 2023, China further solidified its control by banning the export of rare earth extraction and processing technologies. While implementing these measures, China balances the need to preserve its domestic industries that depend on raw materials from Western sources, ensuring minimal internal disruption.

#### Rare Earth Minerals: Definition and Significance

- Rare earth minerals are a group of 17 chemically similar elements, including tungsten, gallium, magnesium, beryllium, and hafnium, with vital applications in numerous high-tech and strategic sectors. These minerals power the production of smartphones, electric vehicles, and renewable energy technologies like solar panels and wind turbines. Additionally, they play an indispensable role in advanced military equipment, such as guided missiles and radar systems.
- The global shift toward green energy and digital transformation has heightened the economic importance of rare earth minerals, making them central to maintaining technological and industrial competitiveness.

#### Global Implications of Critical Mineral Competition

China's control over critical minerals has elevated these resources as a key element of international economic diplomacy. Countries like the U.S. are increasingly concerned about the monopolistic influence China wields in this domain. For India, these developments emphasize the urgent need to build domestic capacities in critical mineral exploration, extraction, and processing. Securing such resources is essential not only for industrial self-reliance but also for participating in global clean energy and digital economy initiatives.



## Challenges in India's Critical Minerals Development

Despite India's vast mineral potential, challenges persist in developing its critical minerals sector. Notably, significant lithium deposits discovered in Jammu and Kashmir's Reasi district in 2023 remain unutilized due to a lack of bidders. Between 2015 and 2024, only 48% of the mineral blocks put up for auction were successfully sold, reflecting inefficiencies in the auction process. Moreover, the reforms initiated by the Indian government, while well-intentioned, have yielded limited outcomes. For example, resource classification systems are outdated, and insufficient geological data makes mineral blocks less attractive to investors. The lack of advanced exploration information further discourages private sector participation in critical mineral development.

## Government Reforms and Initiatives

India has undertaken several measures to address these challenges. The Ministry of Mines has identified 30 critical minerals vital for national security and technological advancement. To secure overseas investments in minerals like lithium and cobalt, the government established Khanij Bidesh India Ltd. (KABIL). Additionally, the Mines and Minerals (Development and Regulation) Amendment Act, 2023, introduced pivotal reforms, including:

- Lifting restrictions on some rare earth elements classified as atomic minerals.
- Introducing an 'exploration license' to attract foreign and domestic resource exploration agencies.
- Offering a reimbursement of 50% of exploration costs after mining operations commence.

These reforms aim to streamline the exploration process, attract global investment, and incentivize participation in India's mining sector.

## Barriers to Progress

Several factors have hindered India's efforts in critical mineral development. The outdated resource classification system creates ambiguity for miners assessing the commercial viability of auctioned blocks. Additionally, the lack of advanced exploration data increases the risk associated with investments. Despite the incentives provided under the amended mining laws, there remains a low demand for exploration licenses, reflecting a broader lack of confidence in the system. Without significant improvements in geological surveying, data transparency, and fiscal incentives, India risks falling behind in the global competition for critical minerals.

## Recommendations for Overcoming Challenges

To realize its potential in the critical minerals sector, India must adopt a multi-pronged approach:

1. **Enhance Geological Data Quality:** High-quality exploration data is essential to bridge the information gap between the government and investors. Robust geological surveys can provide greater certainty to potential miners about the value of mineral blocks.



2. **Provide Upfront Fiscal Incentives:** Like India's semiconductor manufacturing initiatives, the government should offer fiscal support during the exploration phase to attract private and foreign investment.
3. **Direct Capital Support:** Financial assistance during the early stages of exploration can mitigate initial costs, unlocking long-term value in mining and downstream processing.

Such measures would increase investor confidence and facilitate the development of a robust critical mineral ecosystem.

## Conclusion

China's strategic use of export controls on critical minerals underscores the global significance of securing these essential resources. For India, these developments serve as a wake-up call to address existing inefficiencies in its critical minerals sector. By prioritizing advanced exploration, improving data quality, and offering fiscal incentives, India can unlock its vast mineral potential and reduce its reliance on imports. Strengthening domestic capacities in critical minerals is not only vital for national security but also key to positioning India as a leader in the global green energy and digital economy transitions.

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