India-Brazil Critical Minerals MoU

Mains: *GS-II – International relations & GS-III – Economy*

Why in News?

India and Brazil signed a memorandum of understanding (MoU) on rare earths and critical minerals during Brazil President's visit to India with an aim to strengthen supply chains and competitiveness.

What is Rare Earths and Critical Minerals?

	Rare Earth Elements	Critical Minerals
Definition	These are a group of 17 chemically similar metallic elements (15 lanthanides plus scandium and yttrium).	These are essential, non-fuel elements like lithium, cobalt, nickel, and rare earth elements (REEs).
Abundance	They are not rare, but rarely found in high concentrations, often mixed with radioactive thorium or uranium.	Many critical minerals are not geologically rare, exist in significant quantities across the Earth's crust.
Application	Essential for high-tech devices, defense systems, and green technology like electric vehicles and wind turbines.	Vital for modern technology, defense, and clean energy (EVs, solar).
Top producer	China (roughly 60-69% of global mining production) followed by USA, Australia.	China dominates, Australia (lithium), DR Congo (Cobalt), Indonesia (Nickel).
Largest Reserve	China holds the largest reserves, though smaller reserves in Brazil, Vietnam, India, Australia, and Russia	Dominated by China, followed by Chile (lithium), Indonesia (Nickel).
Supply Challenge	Difficult extraction, environmental issues, geopolitical dependence.	High demand, supply chain risks, and concentrated, limited supply.

What is India doing about critical minerals?

- **Capacity building** – India is currently trying to build capacity at home across the critical minerals value chain and to reduce dependence on any one country by building more overseas partnerships for minerals and processing.
- **National Critical Mineral Mission** – It was launched in January 2025, running from 2024-25 to 2030-31.
- It covers the *entire value chain* - exploration, mining, beneficiation, processing, and

recovery from end-of-life products.

- **Policy and Legal Framework**
- India published a *list of 30 critical minerals* in July 2023
- It has used the Mines and Minerals (Development and Regulation) Amendment Act 2023 to give the *Centre more power to auction blocks* for critical and strategic minerals.
- By September 2025, the Ministry of Mines had conducted multiple rounds of auctions covering several blocks.
- **Overseas Partnerships** – The state-backed vehicle Khanij Bidesh India Ltd. is currently exploring overseas acquisitions and signing exploration arrangements, including in Argentina and Chile.
- **Customs Duty Reforms** – India has used changes in customs duty to reduce the cost of importing inputs that it doesn't have enough of at home.
- This includes customs duty cuts in recent budgets for some critical minerals and for scrap and waste that can be processed to recover these minerals.
- **Manufacturing Push** – The Indian government is pushing late-stage manufacturing to reduce import dependence.
- India's aim to *begin domestic production* of rare-earth permanent magnets by the end of 2026 under a *government-backed programme*, with the goal of cutting import dependence in sectors like electric vehicles and defence.

Does the MoU intersect with Pax Silica?

- **Pax Silica** – It is a U.S.-led initiative that brings together partner countries; India joined it on February 20.
- It's meant to *make the "silicon stack"* — the system that starts with raw materials and runs through factories and equipment, all the way to modern computing, including data centres and AI hardware — more secure.
- **General goal** – Pax Silica sets out a general goal in the form of securing supply chains for the U.S. and its partner countries.
- **Bilateral MoU with Brazil** – This bilateral MoU could help India to access and process certain minerals.
- **Not a Pax Silica Member** – This MoU doesn't make Brazil a Pax Silica member, however, nor will activities under the MoU be run as part of Pax Silica projects.

What does the MoU mean for India?

- **Brazil's Mineral Reserves** – The President of Brazil highlighted Brazil's large reserves, of which only about 30% have been explored.
- **Non-binding MoU** – Brazil has shown interest in partnering with India for exploration and processing of its mineral reserves, though the MoU signed remains non-binding.
- **Strengthening India's Bargaining Power** – The agreement will increase India's bargaining power.
- With more supply options, India is less dependent on just one or two sources.
- So, the sellers can no longer impose excessive terms, since India can point to Brazil as an alternative.
- **Investor Confidence** – The MoU signals to companies that their inputs won't be

disrupted by export controls or geopolitical shocks, encouraging them to invest more.
- **Standards & Market Access** – If India and Brazil are able to harmonise their environmental and other regulatory standards, India can more easily sell finished products into markets that increasingly demand proof about where materials were sourced from.

What will the MoU do for Brazil?

- **Brazil's Mineral Wealth** – According to the U.S. Geological Survey, Brazil has 21 million tonnes of rare-earth-oxide equivalent, 2.7 billion tonnes of bauxite, 270 million tonnes of manganese, and 0.4 million tonnes of lithium.
- This MoU could offer Brazil a way to turn this mineral wealth into more value for its industry.
- **Attracting Investment and Buyers** – This agreement can help Brazil attract Indian capital and buyers into Brazilian projects, which can make new mines and processing plants easier to finance.
- It also gives Brazil a large, growing market that can sign long-term purchase contracts so that projects are not built on speculation.
- **Comprehensive Scope of the MoU** – The MoU covers exploration, mining, processing, recycling, and refining, all of which also suit Brazil's goal to move up the value chain rather than just explore raw ores.
- **Strengthening Brazil's Position** – By partnering with India, Brazil gains stronger negotiating leverage in global markets, it signals Brazil's intent to be a value-added player in the minerals sector, not just a raw material supplier.

Reference

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