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Mobilising Industry

Towards Stronger
Africa–India Critical
Minerals Cooperation

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Mobilising Industry Towards Stronger Africa–India Critical Minerals Cooperation

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Abbreviations

BRICS	Brazil, Russia, India, China, and South Africa
CII	Confederation of Indian Industry
DRC	Democratic Republic of the Congo
EPC	Engineering, procurement, and construction
ESG	Environmental, Social, and Governance
FORGE	Forum on Resource Geostrategic Engagement
G20	Group of Twenty
G2G	Government-to-Government
GSI	Geological Survey of India
ICVL	International Coal Ventures Private Limited
IEA	International Energy Agency
JORC	Joint Ore Reserves Committee
KCM	Konkola Copper Mines
MoU	Memorandum of Understanding
NDTC	Namibia Diamond Trading Company
NI 43-101	National Instrument 43-101, Standards of Disclosure for Mineral Projects
PSU	Public-Sector Undertaking
R&D	Research and Development
SAMREC	South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves
SARL	Société à Responsabilité Limitée
UNECA	United Nations Economic Commission for Africa

Executive Summary

A new era of resource diplomacy is here. Countries are vying for access to minerals deemed critical—such as lithium, cobalt, and nickel—for their industrial growth, energy transition, and development. While governments remain the primary drivers of efforts to diversify and build resilient supply chains, the role of the private sector is becoming increasingly important.

Medium- and large-scale companies in India, active across the mining value chain, have already invested in or are exploring potential opportunities across African mining jurisdictions. This comes at a time when African governments are calling for greater local value addition, and India's National Critical Mineral Mission (Ministry of Mines, 2025b) emphasises the development of domestic industry as an urgent policy necessity for the country. As Indian industry seeks to build global partnerships to secure a steady feedstock of raw materials, it is emerging as an operator of the country's mineral diplomacy. This paper examines the presence of Indian companies in Africa's mineral sector, identifies their motivations and constraints, and provides policy pathways for strengthening industrial participation in this new dimension of India–Africa engagement.

Overview of the Indian Industry in Africa

Africa is a familiar geography for Indian economic actors. The earliest linkages between these regions were developed, sustained, and cemented by vibrant trade. More recently, businesses of Indian origin, as well as those looking to expand globally from India, have found success in Africa across sectors including pharmaceuticals, agriculture, and infrastructure. This paper examines more than 20 Indian companies present in the upstream and midstream segments of the mining value chain across the continent.

Investment Drivers for Indian Firms Across Africa's Critical Minerals Sector

The economic rationale that attracts Indian mining companies to African markets has been explored in depth in previous publications (Vaidyanathan, 2025, 2026). Yet there are three interrelated factors that make an urgent case for why New Delhi should enter critical mineral compacts with various African countries.

First, the continent holds over 30% of the world's critical mineral reserves, with many deposits of high ore grades and concentrations (Denton, 2025). Several mineral-producing states also offer incentives that create diverse investment opportunities for foreign companies, including Indian companies. Further, informal Indian business networks that exist due to geographic proximity and historical ties enable a strong understanding of local market dynamics, especially in countries where institutional support may still be evolving.

Second, in the context of India's energy transition and growing renewable energy manufacturing needs, such partnerships can help ensure long-term mineral security. As demand for critical minerals is projected to rise significantly in the country, access to a steady feedstock provides companies with a hedge against global price volatility and supply disruptions. It also strengthens their position within global value chains and supports the competitiveness of downstream manufacturing industries, both vital elements of the country's broader industrial development.

Third, diplomatic channels and institutional familiarity facilitate overseas investment. Government-to-government (G2G) memoranda of understanding (MoUs) between India and select African nations play a role in improving investment climates. According to some interviewees, if implemented effectively and monitored regularly, these arrangements could help reduce policy uncertainty, foster long-term bilateral engagement, and provide a framework for dispute resolution. However, their effectiveness remains uncertain, especially as the feasibility of investment is determined more directly by diverse political and regulatory environments.

African countries are beginning to emphasise local value addition as an instrument of industrial policy, to create jobs, avoid extractive patterns, and build domestic capabilities. India's evolving diplomacy in the region, powered by its private sector, should therefore be informed by these host-country priorities.

Risk Landscape for Indian Firms in Africa's Critical Minerals Sector

Indian companies are relatively new participants in African mineral jurisdictions. As the country's domestic critical minerals ecosystem evolves, instruments extended to support corporations seeking to invest overseas are also being developed. However, these remain largely nascent, and the concerns are numerous. These include the high capital intensity of mining projects, project-execution risks, long gestation periods, uncertain returns for exploration and project development, as well as the requirement for continued capital commitment.

The unpredictability of regulatory regimes, the fragility of governance systems, uneven institutional capacity, and inconsistent enforcement practices add further complexities. These factors often lead to increased costs and delays, collectively creating significant operational uncertainty.

Community resistance due to the socio-ecological vulnerabilities of mining could create long-term reputational risks for companies and become a liability for the Indian government. Adopting local as well as international environmental, social, and governance (ESG) standards is crucial. As global supply chains will increasingly begin to prioritise responsible sourcing, there is an economic incentive to adopt these as well.

Policy Pathways to Operationalise Critical Minerals Diplomacy

This paper positions Indian industry not only as a commercial actor but also as a partner in advancing the country's resource-security objectives. To operationalise New Delhi's critical minerals diplomacy, three pillars—financial instruments, institutional coordination, and global partnerships—must align.

Financing and Ecosystem Support for Global Critical Mineral Investments

The first pillar outlines ways to mobilise and de-risk capital. To reduce entry barriers and improve project bankability, dedicated financial instruments, such as concessional credit and blended-capital models, could be created. Accompanying this, an ecosystem approach would improve project viability. This is to say that, on the one hand, connect mining to infrastructure, energy, and technology, while on the other, introduce mechanisms for time-bound clearances across ministries. Furthermore, establishing international arms of domestic organisations, including the Geological Survey of India (GSI), and empowering Indian embassies to act as bridges to local investment-promotion agencies would help meet host countries' economic objectives. Finally, creating a country-level risk-intelligence database could aid private-sector decision-making.

Strengthening Diplomatic and Institutional Risk Mitigation

This pillar emphasises deepening existing G2G mineral diplomacy frameworks. It includes the introduction of performance tracking for existing MoUs and dispute resolution mechanisms. It also calls for establishing mineral diplomacy desks in select Indian missions. Additionally, platforms for regular government–industry engagement should be established. This would work to not only capture real-time operational challenges but also integrate feedback into policy revision cycles.

Embedding Responsible Investment and Global Partnerships in Critical Mineral Governance

The final pillar focuses on strengthening India's long-term strategic position through responsible investment practices and deeper integration into global mineral governance frameworks. Embedding responsible standards in India's overseas investments and incentivising ESG-aligned projects could enhance market access for India-linked minerals.

Key Conclusions

The architecture of India's critical minerals diplomacy is under development. To secure the country's demand for these green minerals, the Indian private sector will have to be supported and mobilised overseas. They are no longer merely

beneficiaries of state-led agreements but shape on-the-ground engagement as investors and risk takers.

While the presence of Indian companies across Africa reflects a growing appetite for long-term investment, their motivations are informed by a combination of factors. These range from domestic supply constraints and the need to hedge against dependency on China to exploring the potential offered by African markets.

However, there are clear constraints. High initial costs, unclear regulatory systems, and political or social volatility are some factors that continue to shape investor hesitancy. These risks cannot be addressed through G2G agreements or diplomatic initiatives alone. The future of India's critical mineral partnerships abroad will depend on how effectively government institutions respond to the needs of industry actors.

The central message is clear. India must scale up its industrial capacity across the critical minerals value chain, from advanced processing and metallurgical expertise to engineering services and equipment manufacturing. Without strong domestic anchors, Indian companies will struggle to compete globally. Developing tailored financial instruments, investing in research and development (R&D), supporting technical-feasibility studies, and building capabilities will be essential. In effect, India's international presence in critical minerals will be only as credible as the industrial capacity it can demonstrate at home.

1. Introduction

Access to critical mineral resources is fast becoming an interconnected issue spanning economic security, climate resilience, long-term development, and industrial growth. These dimensions are shaped not only by diplomatic engagement but also by commercial performance. Indian firms, both private and public, are becoming increasingly important to the country's international critical mineral partnerships. However, to be regarded as credible long-term partners by host governments, they need to demonstrate technical capability, financial strength, and a record of responsible execution at home and abroad.

Thus far, G2G agreements and diplomatic outreach have created the framework for India's critical minerals diplomacy. However, it is becoming increasingly apparent that it is Indian industry that operationalises these efforts on the ground, especially in Africa, a geography familiar to global Indian economic actors. For centuries, they have built, sustained, and driven India's commercial engagement in the region (Subrahmanyam, 2019). From telecommunications and pharmaceuticals to infrastructure, mining, and agriculture, Indian companies are active across the continent, with cumulative investments valued at USD 74–75 billion between 1996 and 2024 (Ministry of External Affairs, 2025).

As New Delhi steps up its resource diplomacy, the ability of its companies to navigate diverse regulatory environments and establish durable partnerships with African stakeholders will be critical. Equally important will be their adherence to international ESG standards, which will determine the long-term sustainability and credibility of India's mineral engagements.

In this context, this paper asks: To what extent do Indian companies function not merely as participants but as operators shaping the contours of India's critical minerals diplomacy in Africa? By analysing the companies' key motivations and concerns, the paper identifies important lessons for stakeholders seeking to expand engagement in the coming years, particularly because government bodies and public-sector undertakings (PSUs) cannot shoulder this task alone.

2. Methodology

This paper argues that Indian industry is becoming increasingly important to the country's resource diplomacy. Using information collated from primary documents and secondary sources, the appendix lists 20 Indian companies active in African geographies. Their interests span exploration, extraction, processing, and recycling.

Of the 20, a closed-door consultation with representatives of seven companies was held. This helped gather broad industry motivations and concerns. Following this, in-depth interviews were conducted with representatives of two of these companies, and a structured questionnaire was sent to one to capture firm-level operational realities. To remove potential bias, interview findings were triangulated with publicly

available company disclosures, government policy documents, media reports, and existing academic articles.

Furthermore, the author’s participation in a high-level policy dialogue in Lusaka and engagement with stakeholders across the mining sector enriched the research by situating it within local realities and informing the analysis with context-specific perspectives. Additionally, the author attended a seminar organised by India’s National Critical Mineral Mission in New Delhi, showcasing India’s emerging technologies in processing, refining, and recycling, which policymakers hope industry will scale up to advance the country’s mineral ambitions. Together, these streams created a robust evidence base that captured both the capabilities and on-the-ground dynamics that could inform India’s critical mineral partnerships across Africa.

The paper begins by providing context for Indian industry’s presence in Africa, focusing on companies in the mining ecosystem. It then highlights three motivations that drive private-sector interest and three concerns that constrain it. The final section presents three policy pillars through which the Government of India can support and de-risk private-sector participation in critical mineral supply chains and align their interests with the country’s broader strategic goals.

Table 1: Structure of the Paper (Sections 4–6)

Motivations	Concerns	Policy Pillar
Harnessing resource abundance, investment flexibility, and market familiarity	Capital intensity, long gestation periods, and investment risks	Pillar 1: Financing and ecosystem support for global critical mineral investments
Securing long-term mineral security for India’s energy transition and domestic industrial expansion	Fragile governance and unpredictable regulatory regimes	Pillar 2: Strengthening diplomatic and institutional risk mitigation
Policy certainty through MoUs and Diplomatic channels to enable investment	Ethical governance gaps and long-term reputational risk	Pillar 3: Embedding ESG standards and responsible investment abroad

Source: Author’s analysis.

Note: ESG = environmental, social, and governance; MoU = memorandum of understanding.

3. Overview of the Indian Industry in Africa

Indian engagement in Africa has been built, sustained, and led by its economic agents. Bilateral trade between the regions crossed USD 103 billion in financial year 2025, with exports of USD 45 billion concentrated in automobiles, pharmaceuticals, and telecommunications (Confederation of Indian Industry [CII], 2025). Imports of USD 58 billion, on the other hand, comprise oil, minerals, and gems. Over time, between 1996 and 2024, Indian companies cumulatively invested around USD 74–75 billion across a diverse portfolio that includes technology, telecommunications, manufacturing, and pharmaceuticals (CII, 2025). Today, a range of Indian companies, including multinationals such as Bharti Airtel, Mahindra, Larsen & Toubro, and Tata, as well as medium- and small-scale enterprises, operate across the continent. From local manufacturing of pharmaceuticals and construction of transport and energy infrastructure to providing technical and telecommunications services, their presence spans sectors (Vaidyanathan, 2019).

The increase in commercial linkages is also reflected in the growing presence of Indian banks across Africa. The State Bank of India, Bank of Baroda, HDFC, ICICI, Punjab National Bank, Canara Bank, and Union Bank of India maintain offices or branches in several countries. They primarily provide trade finance, project support, corporate banking facilities, and working capital. The Export–Import Bank of India has also extended lines of credit and grants tied to Indian exports or construction contracts, which facilitate investment flows.

3.1 Spotlighting Mining Companies and Their Operations

As Indian industry's presence across African critical mineral sectors remains limited, the analysis of this paper extends to companies active across the broader mining value chain (see Table A–1 in the Appendix). This expansion of scope intends to contextualise emerging critical mineral engagements, especially patterns of investment, modes of entry, and sectoral linkages.

From upstream exploration to downstream processing,¹ these companies are stepping up their presence. This increase in activity involves complex business models and operational approaches—elements crucial to grasping how Indian industry navigates opportunities and challenges in Africa's mining sector. This is crucial to unpack, as these actors will soon begin to shape India's mineral diplomacy on the continent.

Over 20 Indian mining companies active in African geographies were identified using information collated from primary documents and secondary sources. Broadly, the mapping indicates that Indian mining operations in Africa are concentrated in

¹ Upstream refers to exploration and extraction; midstream refers to beneficiation, smelting, refining, and processing; and downstream refers to value addition and end-use manufacturing, including products such as battery materials, magnets, and other industrial applications.

copper and cobalt exploration, mining, and processing activities, followed by coal and gold mining. These engagements are located primarily in Central and Southern Africa, especially Zambia and the Democratic Republic of the Congo (DRC), with a smaller but notable presence in West Africa, including Mali and Côte d’Ivoire. The mapping indicates that Indian PSUs mostly engage in the upstream stage of the mining supply chain, in exploration and mining activities. These partnerships are exemplified by International Coal Ventures Private Limited (ICVL), which acquired coal assets in Mozambique to secure the supply of coking and thermal coal (The Hindu, 2014).²

Private-sector companies, such as the Jindal Group, have been prominent in Mozambique’s coal sector (Jindal Steel, n.d.; Moneycontrol Bureau, 2012). Companies that have obtained exploration licences have entered mandated equity partnerships with African governments. For example, Côte d’Ivoire’s state-owned company, SODEMI, holds 10% equity in Shiloh Manganese, a subsidiary of India’s Shiloh Industries (Reuters, 2017). This partnership further enabled a planned long-term investment by Shiloh Manganese of USD 26 million over 10 years. At this stage, service-based Indian companies such as Metmin Ltd. and Geovale are crucial to successful mining operations, providing services including drilling, logistics, ESG consulting, and mining equipment (Metmin Limited, n.d.).

While Indian companies are involved in the upstream stage, their presence in the midstream stage is steadily growing, exemplified through public–private partnerships and private-sector joint ventures. For instance, Konkola Copper Mines (KCM), which actively engages in copper mining and smelting in Zambia, is jointly owned by Vedanta (80%) and state-led ZCCM Investments Holdings (20%) (Reuters, 2025).³ Similarly, in the DRC, Indian company Somika has a joint venture with partly state-owned Gécamines for a mineral-processing plant in Lubumbashi (Mthembu-Salter, 2011; Somika, n.d.).

Namibia’s diamond sector, however, particularly stands out in terms of local integration, in which the Namibia Diamond Trading Company (NDTC) supplies rough diamonds to local sightholders for cutting and polishing.⁴ According to Ndjaba, this has contributed to employment creation, skills development, and technology transfer (2025). Despite this, the author argues that the sector continues to face challenges, including high labour costs and regulatory constraints, which limit the country’s ability to capture greater value from the global value chain.

² ICVL, a joint venture of Steel Authority of India Limited, Coal India Limited, Rashtriya Ispat Nigam Limited, NMDC Limited, and NTPC Limited, finalised the takeover of Rio Tinto’s operating coal mine and coal assets in Mozambique.

³ It is important to note that Vedanta Resources is a UK-based parent company that conducts its primary operations through a subsidiary called Vedanta Limited.

⁴ Sightholder partnerships are strategic and long-term in nature, in which a trusted, pre-approved client or “sightholder” obtains the right to add value to the produced material. Such partnerships are common in the diamond market and are preferred for supply-chain governance and transparency, although their local value addition and impact are contested.

Depending on prior success, investments, and African regulatory systems, a few Indian companies are involved in more than one part of the mineral supply chain, operating across stages from mining, beneficiation, and processing to value addition and supply. However, barring a few in the gemstone and chemical industries, the mapping suggests that fewer Indian companies are involved in the downstream stage of the mining ecosystem.

Some Indian companies provide developmental support through infrastructure projects, particularly in energy and transport, that support their mining activities. Others also support mineral ecosystems through engineering, procurement, and construction (EPC) services. For example, Larsen & Toubro's Minerals & Metals business operates primarily as an EPC contractor for processing and industrial facilities rather than as a mine operator (Larsen & Toubro, 2025). Similarly, Jindal Steel and Power are still in talks to build a power plant in association with the Government of Mozambique (NDTV Profit Desk, 2023; Press Trust of India, 2015; Reuters, 2011).

Furthermore, India's Ministry of Mines and Ministry of External Affairs have partnered with the Zambia Development Agency and the Ministry of Commerce, Trade and Industry to deploy Indian geologists for copper and cobalt exploration in Zambia (Reuters Staff, 2025). A previous working paper by this author explores how responding to African partners' demand for geological mapping and reserve exploration could serve as a viable avenue for India to add value. The Zambia initiative marks a significant moment in the internationalisation of the GSI, which has historically operated within India; however, according to the latest reports, the plan has stalled (Arora, 2026). Regardless, this demonstrates how India is beginning to leverage its institutional strengths in support of its critical minerals diplomacy.

As discussions over the sustainability of mining operations gain traction, companies are under increasing pressure to align with ESG standards. However, uncertain enforcement and loopholes in regulatory frameworks sometimes render ESG initiatives inconsistent, leaving local communities to bear the socio-ecological costs (Mutemeri, 2024). Lapses like these have also been evident in select cases where mining operations by Indian companies faced opposition from local communities due to the adverse social and environmental impact of their activities and were then suspended by host governments (Mukumba et al., 2026).

These dynamics underscore the complex, growing role of Indian industry in Africa's mining ecosystem, marked by opportunity, institutional learning, and pressing sustainability challenges.

4. Investment Drivers for Indian Firms Across Africa's Critical Minerals Sector

As India Inc. ventures into Africa's diverse critical mineral landscapes, seeking opportunities across mining value chains, several factors drive its investment decisions. Drawing on closed-door consultations, in-depth interviews, and a structured questionnaire, this section highlights three main aspects:

- Africa's resource abundance, market familiarity, and opportunities for portfolio flexibility;
- Access to primary ores to support Indian industry and meet energy transition goals;
- Existing MoUs and G2G frameworks that can be leveraged to enable investment.

The push and pull factors that make African countries viable and attractive investment options are multiple and interlinked. However, these three indicate where the Government of India could focus to support industry and strengthen its role in international mineral supply chains.

4.1 Harnessing Resource Abundance, Investment Flexibility, and Market Familiarity

Africa is home to some of the largest and fastest-growing reserves of battery-relevant materials. These include lithium in Zimbabwe and Mali; cobalt in the DRC; manganese in South Africa and Gabon; graphite in Mozambique and Tanzania; copper in Zambia and the DRC; and platinum group metals, primarily in South Africa and Zimbabwe (United Nations Economic Commission for Africa [UNECA], 2024). As India's clean-energy ambitions grow, industry actors recognise that it is essential to diversify sources of supply. This not only helps manage long-term demand volatility but also helps offset supply risk.

Africa also represents an economically viable component of a diversified critical minerals strategy. First, Africa has a significant advantage when it comes to the resource quality of certain critical minerals. For instance, the DRC is home to some of the richest copper deposits, with ore grades more than four times the global average (Center for Strategic and International Studies, 2025). It also possesses four of the world's largest cobalt mines. Additionally, Africa holds 85% of the world's manganese deposits, 80% of chromium deposits, and 80% of global platinum group metal reserves (Boafo et al., 2024).

More importantly, African sourcing for India's mineral and energy needs is already substantial. India imported more than USD 3.5 billion worth of minerals, metals,

and their products from Africa in 2025–26⁵ (Ministry of Commerce and Industry, 2026). Beyond minerals, India's imports of mineral oils and fuels crossed USD 19 billion, a 14.5% increase from the previous year. For example, in 2023–24, India imported 18% of its copper from Tanzania and 5% from Mozambique (Ministry of Mines, 2024). Similarly, in 2025, India sourced 31% of its graphite imports from Mozambique, making Mozambique the largest supplier of the mineral to India. Ultimately, building on these diversified partnerships helps reduce India's exposure to China-dominated supply-chain chokepoints and sole-source dependent vulnerabilities, a strategy often recommended for India, which is already heavily import-dependent on critical mineral supplies (Institute for Energy Economics and Financial Analysis, 2024).

Critical mineral deposits are dispersed across African countries with varied regulatory ecosystems, many of which also provide a range of incentives for foreign investors. This gives Indian companies several options for investing in upstream assets. They can establish greenfield ventures, in which projects begin from scratch; use tolling or offtake hybrids, in which raw materials are purchased for processing or refining without ownership of mines; or enter staged equity partnerships, in which shares are purchased incrementally as projects progress. This flexibility helps investors adapt to changing market dynamics, reduce risks, and assign capital efficiently (Industry Survey Response, 2025). It could also help India improve supply security for its domestic sectors and reduce dependency.

In addition to these factors, the familiarity of Indian businesses with African markets cannot be underestimated. Historically, Indian mining engagement on the continent has included interests in gold and coal, but in the critical minerals context, companies are engaged in the copper, cobalt, manganese, and graphite sectors (see Table A–1 in the Appendix). This familiarity with navigating different markets, access to informal business networks, existing relations with host governments, and ability to adapt to evolving policy environments provide these actors with a comparative advantage (CII, 2025).

This dynamic varies, however, with the maturity of the host country's mining sector. While countries such as South Africa and Zambia have long-established mining institutions, others may present greater regulatory or operational uncertainty. Regardless, this market familiarity can reduce entry barriers, improve overall project economics, and enhance the commercial attractiveness of ventures for Indian and international investors alike, especially in jurisdictions where institutional support may still be evolving.

⁵ This figure is calculated from India's 2025–26 imports of iron, steel, copper, nickel, aluminium, lead, zinc, tin, and related articles, according to the Ministry of Commerce and Industry.

4.2 Securing Long-Term Resource Security for India's Energy Transition and Domestic Industrial Expansion

To support the development of India's processing and manufacturing industries and enhance supply-chain resilience, it is imperative to secure upstream access to primary ores (Stakeholder interviews, July 2025).

This becomes especially urgent given the rapid growth of electric mobility, on the one hand, and the rising need for energy storage to support the renewable-energy sector, on the other. Although efforts to enhance urban mining and mineral recycling are underway, industry respondents note that secondary sources alone cannot meet demand projections (Stakeholder interviews, July 2025). Therefore, overseas critical mineral partnerships not only help bridge near-term supply gaps but also support the competitiveness of India's clean-technology sectors.

Along with the risk of disruption that looms large given China's dominance over global midstream processing—an estimated 50–70% of lithium and cobalt refining, 35% of nickel refining, and over 90% of rare earth processing (International Energy Agency [IEA], 2021)—the fact that developing commercially viable domestic processing industries in India could take years presents a unique challenge (Puri and Dawda, 2025). Therefore, for firms that lack immediate refining capacity, upstream participation may still serve strategic purposes. These include securing future offtake, improving bargaining power, and enabling entry into processing arrangements while domestic midstream capacity develops (IEA, 2024).

In this context, securing ore at source becomes essential. For Indian private-sector actors, upstream investments in Africa offer several advantages (Stakeholder interviews, July 2025):

- De-risking future midstream investments by ensuring that processing facilities, once established, have a reliable, long-term feedstock supply.
- Locking in preferential terms through early-stage participation in exploration or joint ventures.
- Reducing exposure to price volatility caused by geopolitical tensions or the possible weaponisation of supply chains.

While the reasons for a company to acquire upstream assets could differ—from immediate offtake to securing stakes for the future—ore-side diversification is important. India's plans to gradually build domestic processing capacity will also depend on this.

However, a key factor limiting this aspiration is the dominance of Chinese firms in African mining ecosystems. To put this in perspective, in the DRC, for example, Chinese entities control roughly 70% of the sector (Neema, 2023). This includes several large-scale operations such as the Tenke Fungurume Mine, owned by CMOG Group Limited, previously known as China Molybdenum Company Limited

(CMOC, 2024). In Zimbabwe, Chinese companies such as Zhejiang Huayou and Sinomine control critical lithium assets and processing infrastructure (Nyamwanza & Bhatasara, 2025).

This presents a set of obvious challenges for new Indian entrants: securing equity stakes or offtake agreements and building trusted relationships with African host governments. Naturally, strengthening the “India offer” before commercial opportunities are further consolidated will also be difficult.

4.3 Policy Certainty Through Memoranda of Understanding and Diplomatic Channels to Enable Investment

According to some official estimates, India has signed MoUs with more than six African nations on mining (Ministry of Mines, n.d.). While the progress and utility of these agreements in mitigating regulatory risks or providing diplomatic support could not be established, the companies interviewed regarded them favourably.

These MoUs identify a range of areas for collaboration. These include facilitating investments in exploration and processing, technology transfer, and capacity building, among others (Ministry of Mines, Government of India, n.d.). Perceived as a trust-building, risk-sharing mechanism, they create an environment in which Indian industry can operate with greater confidence. In increasingly competitive mineral ecosystems across Africa, MoUs have the potential to generate commercial interest and act as a powerful pull factor (Das, 2025).

Besides, MoUs help bring a measure of policy certainty to companies navigating diverse local political and regulatory environments—decisive factors that continue to shape the feasibility of investments, especially as this heterogeneity does not always align with the capabilities and timelines of potential investors. For instance, Namibia and Zambia have tax incentives, duty exemptions on capital equipment, and faster permitting processes, which lower entry barriers for Indian firms (Andrada Mining, n.d.; Saggese et al., 2024). However, Zimbabwe’s domestic beneficiation mandate for lithium increases the capital intensity and project gestation periods (ZIMRA, n.d.).

This brings to the fore the development dilemma that critical minerals pose for producer countries. While value-addition requirements are not simply regulatory burdens, but instruments of industrial policy designed to create jobs, avoid extractive patterns, retain value domestically, and enhance domestic capacities, India’s critical minerals diplomacy in the region may have been initiated by G2G MoUs. However, it will have to be driven by the private sector, which must treat host-country priorities as central rather than peripheral to these partnerships (Baum, J. & Ngundu, M., 2025; UNECA, 2024).

5. Risk Landscape for Indian Firms in Africa's Critical Minerals Sector

With host countries increasingly prioritising local value addition, Indian firms must prove their strengths in processing and technology, a significant challenge given the early stage of India's capabilities. Further, companies seeking to engage in African critical mineral ecosystems encounter a set of interlinked structural, political, and governance-related risks. Based on stakeholder consultations with industry representatives, this section illustrates three core concerns:

- Financial and operational risks;
- Governance and regulatory uncertainty;
- Ethical and reputational vulnerabilities.

These concerns collectively inform the nature and forms of Indian investment. While they throw light on the factors informing firm-level decision-making, they also highlight the need for more coherent policy support from the Government of India.

5.1 Capital Intensity, Long Gestation Periods, and Investment Risks

The high and often unpredictable cost of operating in mineral-rich African countries was identified by industry stakeholders as one of their most pressing concerns. As access to infrastructure, power supplies, and digital connectivity was uneven, the burden of building or upgrading existing facilities often fell on investors. This, in turn, not only increased project expenditure but also delayed timelines.

Another serious concern is the low success rate of exploration activities. This poses a double risk. On the one hand, it requires substantial time and capital allocation before mining can begin, but on the other hand, it also delays returns, which may take anywhere from 5 to 10 years to materialise. These directly impact the ability to attract financing, or the overall bankability of the project, further compounding the issue.

A survey respondent noted that “lenders, offtakers, and partners typically require authoritative resource estimates and feasibility studies prepared in accordance with internationally recognized reporting frameworks such as JORC, NI 43-101, or SAMREC.”⁶ Without these, access to commercial debt or equity is limited, and capital costs rise. However, the respondent added, “producing a compliant feasibility

⁶ The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code), Canada's National Instrument 43-101, Standards of Disclosure for Mineral Projects, and the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (the SAMREC Code) are frameworks for disclosing exploration results, mineral resources, and mineral reserves in a credible, comparable format for investors and lenders.

suite, from scoping to full feasibility, can cost USD 5–6 million and take 18–24 months, posing a significant barrier to entry for new or undercapitalised Indian firms” (Industry survey response, 2025).

Additionally, during the exploration phase, companies incur additional costs when no internationally accredited laboratories operate in the region. According to an industry respondent, “Minerals from each site need to undergo sampling to gauge quality, toward ensuring the financial viability of the raw product. The lack of these laboratories forces companies to transport samples to India or third countries for analysis, leading to delays and increased logistical expenses” (Stakeholder consultation, July 2025).

Another factor limiting India’s competitiveness in securing overseas critical mineral assets was the limited availability of capital. Although India’s newly launched National Critical Mineral Mission promotes exploration, stakeholders consulted stated that support is directed predominantly towards public-sector undertakings, which are widely perceived as more risk-averse and slower-moving than the private sector (Stakeholder consultation, July 2025).

Appetite for investment in African exploration projects, especially at the early stages, when upfront costs are high and returns uncertain, is limited without access to state-backed funding. In parallel, while commercial fundraising remains the responsibility of companies, the role of the government is to reduce political risk, provide capital for high-risk operations, and offer support in ecosystems where individual firms cannot function alone.

Taken together, these factors of delayed returns, infrastructure gaps, and high compliance costs create an investment environment perceived as expensive and risky. This is particularly true for smaller Indian firms. Without the financial buffers or political leverage of larger multinational competitors, they struggle to make headway.

One approach to overcome this could be to adopt consortium-based participation. Smaller companies contribute technical or geological expertise while larger ones or public institutions absorb more of the capital burden. However, this model would call for a degree of collaboration between actors that are inherently competitive, which brings its feasibility into question.

5.2 Fragile Governance and Unpredictable Regulatory Regimes

Prospective Indian investors face a range of challenges when governance systems are fragile or unpredictable. The lack of transparency in licensing or receiving permits, corruption, and legal issues emanating from the coexistence of customary and state law are some of these challenges.

Most worrying is the lack of contractual integrity in some mining jurisdictions, with political volatility, weak institutional capacity, or uneven legal enforcement. Sometimes, in these specific contexts, mining or investment laws, as well as contract terms, may be revised, reinterpreted, or unevenly executed. According to industry representatives, such disruptions often occur around elections or political successions, often without notice. This is when administrative processes and decision-making are delayed, often halting the project (Stakeholder consultation, July 2025).

Second, corruption at both bureaucratic and political levels can interfere with fair competition, increase transaction costs, and hold up project approvals. Together, these factors create a high degree of regulatory unpredictability and expose firms to reputational and legal risks.

Third, issues relating to land ownership and tenure uncertainty arise. In many African mining countries, there are overlapping claims between customary, community-held, and state-issued land titles. This leads to a lack of clarity around rights of use and access to land. These issues could not only lead to delays in obtaining permits or compensation disputes but, in some cases, also set off significant community opposition. These could potentially escalate into legal injunctions, cause long-term reputational damage, delay project timelines, and increase costs (Industry survey response, 2025).

Finally, another major deterrent is the physical security of employees travelling to mining sites located in isolated geographies. It was pointed out that during travel to remote or conflict-prone regions, Indian and local African personnel are exposed to banditry, theft, or civil unrest. This puts the team at heightened risk, which is often amplified by the lack of emergency services or secure transportation (Stakeholder consultation, July 2025).

Without deeper knowledge of local contexts and institutionalised mechanisms to navigate them, Indian firms remain cautious about making long-term commitments in complex and diverse African markets.

5.3 Ethical Governance Gaps and Long-Term Reputational Risk

The variety of ESG standards and compliance mechanisms across African countries, and sometimes across regions within the same country, creates ambiguity. This diversity not only makes it difficult to standardise internal protocols but also increases the cost of ensuring regulatory adherence. That said, the inability or unwillingness of Indian companies to fully adhere to internationally recognised ESG standards only complicates this further. “In countries where state-capacity is limited, this creates a governance gap in which corporate practices are insufficiently monitored, inconsistently disclosed, and poorly enforced,” according to a respondent working in a Zimbabwe-based CSO (Industry survey response, 2025).

As vehicles of India's critical minerals diplomacy abroad, such lapses cannot be seen merely as a firm-level concern but could become a strategic liability for the government. Given that Indian operations abroad are often conflated with activities of the state itself, allegations of inadequate community engagement, labour exploitation, or environmental degradation could influence perceptions of India as a development partner in the region. Such divergences between diplomatic commitments—outlined in forums such as BRICS and G20—and weak corporate practices could not only erode trust among African partners but also weaken New Delhi's normative influence in Global South coalitions. Furthermore, as ESG-linked supply chains become increasingly important, non-compliant firms may face market exclusion, affecting the long-term viability of India's mineral supply networks.

To offset this, the Government of India must put in place policy guardrails. This could include establishing ESG standards for overseas operations and ensuring compliance. One way to do this would be to link companies' access to concessional lines of funding or credit lines to adherence to those standards. Reinforcing these by including sustainability provisions in MoUs with African governments would also signal intent and establish trust. These measures are crucial not only to hold the Indian private sector accountable for its actions abroad but also to protect the goodwill New Delhi has built in the region over time.

6. Policy Pathways to Operationalise Critical Minerals Diplomacy

As things stand, India Inc.'s ability to scale and sustain its overseas operations is constrained by a series of interlinked factors outlined in previous sections. An important facet of building a resilient investment architecture is expanding the mandate of existing institutions, such as the Exim Bank of India, while also developing partnerships with global insurers to provide political risk coverage for companies operating across Africa.

There is also value in moving beyond fragmented interventions to identify a set of financial, diplomatic, and normative instruments that can be developed and deployed. This section outlines three interlinked policy pillars, drawn from stakeholder interviews and secondary evidence, that could collectively enhance the resilience, effectiveness, and credibility of India's critical mineral engagement in Africa.

The first pillar focuses on reducing entry barriers for Indian firms by addressing financial constraints and strengthening ecosystem support to enable investment. The second focuses on institutional mechanisms to mitigate regulatory uncertainty. The third emphasises legitimising engagement by embedding ESG standards and leveraging multilateral platforms to ensure responsible, transparent, and credible investment practices.

Together, these pillars signal a shift from fragmented, opportunity-driven overseas activity towards a more structured and interlinked framework for India's critical minerals diplomacy.

6.1 Pillar 1: Financing and Ecosystem Support for Global Critical Mineral Investments

The last few years have witnessed a tremendous evolution of the critical minerals ecosystem in India. This includes the formation of new institutions to facilitate international partnerships, as well as the introduction of instruments designed to empower the competitive and capital-intensive mining industry.

For context, projects in Zimbabwe such as the Arcadia mine, a leading lithium producer with an annual production of 400,000 tonnes of lithium concentrate, were acquired by Zhejiang Huayou Cobalt for USD 422 million (Hollands, 2023). Another USD 300 million was invested in the associated processing plant with a capacity to process 4.5 million metric tonnes of hard rock into concentrate. On a smaller scale, the privately owned Bikita Mine was bought by Sinomine Resource Group in 2022 for USD 200 million (African Minerals Development Centre, n.d.). This suggests that standalone mid-sized lithium projects typically require capital outlays of USD 200–400 million. This range provides a working benchmark for the scale of capital Indian firms would need to mobilise to participate in comparable projects, though it should be treated as indicative rather than a formal industry-wide estimate.

Indian industry is already matching such capital expenditure market requirements. LOHUM, with a planned capital expenditure of INR 3,000 crore (approximately USD 313.5 million), acquired a lithium mine in Zimbabwe in 2026 (Anand, 2026). In a similar vein, a larger industry player such as the Vedanta Group, although not in lithium, has recently unveiled a plan to invest more than USD 1.5 billion in its Konkola copper mine in Zambia (Agbetiloye, 2026).

However, access to capital has also been widely recognised as a central challenge for Indian firms, with the Ministry of Mines developing dedicated investment-support funds. As these instruments aim to strengthen Indian industry and enable its participation in international mineral value chains, they must evolve to support private-sector companies in addition to public-sector undertakings, especially those in the early stages of exploration and development. Another aspect of this evolving investment architecture is the National Mineral Exploration Trust. Although its mandate is to support domestic exploration, this model could be replicated to support mineral exploration overseas.

The establishment of a high-level inter-ministerial mechanism, chaired at the secretary level, also signals a shift towards greater policy alignment (Ministry of Mines, 2025a; Press Information Bureau, 2025). From an industry perspective, however, its value lies in its ability to reduce bureaucratic friction and enable faster cross-ministry decision-making on key issues, ranging from overseas

investment clearances and export–import regulation to diplomatic facilitation and infrastructure support. As Indian companies operate in dynamic, high-stakes, international minerals markets, such coordination will be essential. That said, the extent of the tangible impact this mechanism has had to date remains uncertain, particularly in terms of translating policy coordination into measurable outcomes for companies.

Respondents also discussed the merit of establishing a mineral-focused stock exchange or investment platform that could not only function as a market-discovery mechanism and facilitate access to capital but also encourage the sharing of geotechnical data and improve the visibility of high-potential projects (Industry survey response, 2025). More broadly, industry could gain a practical and reputational advantage from a strategy that combines India’s comparative strengths in infrastructure development, agricultural technology, and capacity-building with mining partnerships. This ecosystem approach aligns with the expectations of African partner countries, which value long-term, development-oriented cooperation (Vaidyanathan, 2025). It also links mining-adjacent sectors, including logistics, power, and water, that are critical to project viability.

Central to this ecosystem approach is the internationalisation of technical institutions such as the GSI and Mineral Exploration and Consultancy Limited. These organisations are increasingly deployed overseas to assist African governments with geological mapping, exploration, and capacity-building. This technical collaboration generates valuable geoscientific data that can reduce exploration risks for Indian firms. It can also demonstrate India’s technical credibility and foster trust as a partner in development. That said, the GSI is heavily tasked with domestic responsibilities, and its capacity constraints raise questions about how effectively it can scale its expertise abroad. The extent to which these institutions can move beyond their domestic mandates to serve as credible overseas partners therefore remains to be seen.

The ecosystem, for Indian companies, also includes Indian-origin businesses that have an established presence in African countries. This could offset operational challenges, improve regulatory navigation, and possibly even promote joint ventures if incentivised.

These initiatives illustrate that successful critical minerals diplomacy relies not only on high-level coordination but also on tangible fiscal instruments that empower Indian companies to act decisively in international markets. Although preliminary efforts to combine diplomatic, technical, and commercial levers are already evident, the priority now is to support and embed Indian firms responsibly in international value chains to ensure the country’s long-term mineral security.

Key Policy Options:

- **Mobilise and de-risk capital:**
 - Finance overseas critical mineral projects through dedicated concessional credit lines facilitated by the Exim Bank of India.
 - Establish a blended-finance facility, operated jointly by the Exim Bank of India and development finance institutions, to support high-risk projects.
- **Adopt an ecosystem approach:**
 - Introduce mechanisms for time-bound approvals and clearances to reduce procedural delays across ministries. For high-value or sensitive projects, create an escalation framework, possibly linked to the Prime Minister's Office.
 - Promote cross-sector links by connecting mining with infrastructure, logistics, energy, and technology to improve project viability.
- **Make technical institutions go global:**
 - Establish an international arm of the GSI to separate its overseas functions from its domestic responsibilities.
 - Introduce performance-evaluation frameworks jointly monitored by the Ministry of Mines and the Ministry of External Affairs.
- **Foster local partnerships:**
 - Equip Indian embassies to serve as facilitation hubs for joint-venture formation and regulatory navigation.

6.2 Pillar 2: Strengthening Diplomatic and Institutional Risk Mitigation

In theory, the MoUs signed between governments should, among other things, lower the perceived political risk for Indian investors. They could also provide rapid access to geological data or structured channels for settling regulatory disputes, which could accelerate decision-making, especially in the early stages. However, according to interview respondents, existing agreements appear to be underutilised.

A structural barrier that undermines investor confidence is India's limited diplomatic footprint in many resource-rich regions. When asked about their expectations from Indian missions, the respondents highlighted the need for support in facilitating local coordination, providing security assessments, and intervening diplomatically when challenges arose. India has, however, expanded its diplomatic presence in Africa by opening 17 new missions since 2018, bringing the total number to 46 (Ministry of External Affairs, 2025). This expansion may offset some of these concerns.

The proposed deployment of mining attachés in specific Indian missions abroad, tasked with bridging the gap between Indian companies and local ecosystems,

strengthens the broader diplomatic expansion (Law, 2025). By facilitating smoother navigation of complex regional frameworks and fostering deeper bilateral ties, these attachés could reduce uncertainty and friction, thereby improving investor confidence.

These plans reflect an evolving recognition in India that successful mineral diplomacy has to be backed by strong institutions that are politically engaged and technically specialised.

To keep policies nimble and responsive to the realities of overseas investment, a more consultative approach to policy formulation is necessary. Regular consultations between ministries and investors active in or interested in African mineral projects will help capture real-time industry insights and also provide a feedback mechanism for policy revision.

However, the success of India's critical mineral mission rests heavily on the country's processing capabilities. One step towards this is to boost domestic mining R&D. To reduce dependence on imports and increase value addition domestically, it is vital to fund research on emerging technologies, such as alternative battery chemistries and low-emissions processing methods (Ministry of Mines, 2025a). Whether national laboratories and public research institutions can scale these indigenous technologies into commercially viable processing solutions remains to be seen.

Creating a centralised data bank that outlines mining laws, fiscal regimes, and ESG standards to support Indian stakeholders looking to engage in Africa could serve as a tool for risk assessment and decision-making, while reducing costs incurred in conducting due diligence (Stakeholder consultations, July 2025).

To craft a critical minerals strategy that is resilient and viable, industry perspectives will need to feed into policymaking, and technological self-reliance will have to be prioritised.

Key Policy Options:

- **Standardising and deepening government-to-government mineral diplomacy frameworks:**
 - Create processes to track the performance of existing and future MoUs. These processes can be jointly reviewed by the Ministry of Mines and the Ministry of External Affairs.
 - Introduce a dispute-resolution mechanism into mineral agreements to reduce uncertainty.
- **Strengthening diplomatic presence:**
 - Post mining attachés to Indian embassies in select African countries, expand their mandates to include investor facilitation.
 - In key Indian missions, establish mineral-diplomacy desks to build

relationships with local investment-promotion agencies and coordinate with mining ministries.

- **Creating industry–government feedback structures:**
 - Establish platforms for regular government–industry engagement to record operational challenges in real time.
 - Integrate industry feedback into policy-revision cycles led by the Ministry of Mines so that policies remain adaptive and nimble.

6.3 Pillar 3: Embedding Environmental, Social, and Governance Standards and Responsible Investment Abroad

As Africa’s centrality to the global energy transition becomes prominent, stakeholders across the continent emphasise that mineral-producing countries remain severely underexplored. Even in countries like the DRC, only a fraction of the geological assets have been surveyed (Council on Foreign Relations, 2025). This presents an immense opportunity for Indian corporations, but their success in geographies considered both high-potential and high-risk will depend, among other things, on support to offset regulatory and operational risks.

An arrangement intended to help shift some of this perceived risk is India’s participation in multilateral frameworks with other global actors. The Quad Critical Minerals Initiative Framework with the US, Australia, and Japan, as well as the Minerals Security Partnership, are intended to provide such support. However, industry respondents highlight that these have not translated into concrete support for actors on the ground (Industry survey response, 2025).

How can these platforms be retooled to better serve commercial interests? The answer seems to lie in creating blended-finance and risk-sharing mechanisms while also leveraging complementary strengths. A consortium-based model for mineral exploration, infrastructure development, and workforce skilling could also be explored (Ngwadla et al., 2024). This could potentially lead to the creation of a “Quad Co-investment Facility” or an “India–Africa Critical Minerals Fund” designed for the following:

- Co-investing in capital-intensive mining and processing infrastructure, enabling Indian companies to enter at an earlier stage with reduced exposure.
- Lowering the equity burden for firms operating in high-cost beneficiation jurisdictions with local value-addition requirements.
- Financing enabling infrastructure, such as transport corridors, energy access, and water systems, which significantly affect project viability and are often outside the scope of a single firm’s investment capacity.

India could adopt a more integrated multilateral approach, leveraging participation in frameworks such as the Forum on Resource Geostrategic Engagement (FORGE) (U.S. Mission India, 2026) to form joint ventures with like-minded partners in

jurisdictions perceived as high risk. Areas for collaboration could include geological exploration and data sharing; the development of mining-adjacent infrastructure, including roads, power, and water; training and skilling of the local workforce; and standard-setting for ESG performance.

A three-tiered partnership model could support the interests and operational needs of India's private sector in the global critical minerals landscape:

- Upstream bilateral partnerships with African nations should emphasise mutual development goals and capacity-building while facilitating Indian industry participation through improved geological access, regulatory coordination, and the co-development of mining and beneficiation infrastructure.
- In relationships with advanced economies, prioritise co-investment frameworks and financing instruments that help Indian firms overcome entry barriers in capital-intensive segments of the value chain.
- Platforms such as FORGE can be leveraged to align commercial objectives with global norms on sustainability, traceability, and market access, thereby signalling a long-term commitment to trusted partners.

Notwithstanding these opportunities, translating diplomatic commitments into operational outcomes will also depend on adaptability to local contexts.

Key Policy Options:

- **Provide incentives for investments aligned with environmental, social, and governance standards through capital- and risk-sharing instruments:**
 - To support overseas projects, establish a critical minerals co-investment facility. Jointly overseen by the Ministry of Finance, the Ministry of Mines, and the Ministry of External Affairs.
 - Provide concessional equity participation through the Exim Bank of India and extend risk insurance through ECGC Limited.
- **Embed responsible investment standards in India's overseas investments:**
 - Mandate companies to submit annual ESG disclosures for overseas mining operations, with the Ministry of Mines acting as the designated nodal authority.
 - Incentivise adherence to responsible-sourcing standards by linking it to access to public finance, export credit, and diplomatic support.
- **Increase the role of Indian actors in consortium-based models:**
 - Involve Indian firms in institutionalising joint exploration, infrastructure development, and workforce skilling with like-minded partners.
 - To enhance market access for India-linked minerals, establish traceability protocols across projects.

- **Strengthen three-tier partnership models:**

- Evaluate existing agreements with advanced economies, including the United States, the European Union, Japan, Australia, and Canada, to support beneficiation projects.
- Update existing mineral MoUs with specific African countries, with Indian embassies leading roadmaps that include targets for private-sector integration.

7. Conclusion

This paper set out to examine how mobilising India's private sector in its critical minerals diplomacy across Africa would help strengthen new dimensions of the partnership. Using political economy and geopolitical lenses, the analysis combined an overview of Indian firms operating across African mineral jurisdictions with an assessment of their motivations, constraints, and the policy ecosystem influencing their decisions.

The findings indicate that Indian firms are neither passive nor dominant actors in shaping diplomacy. They are emerging operators navigating complex socio-political, economic, and ecological realities, whose engagement is shaped by commercial ambition, operational pragmatism, and strategic necessity. Their motivations include securing supply to meet domestic demand, leveraging host-country incentives, and benefiting from G2G agreements that enhance policy certainty. At the same time, companies face persistent risks, including limited capital, slow returns, governance volatility, and the pressure to be a responsible actor.

Policy measures ranging from proactive diplomatic engagement to innovative financing, enhanced industry–government collaboration, and advanced technology adoption can strengthen India's critical minerals diplomacy and even align private-sector drivers with national objectives.

The core message is clear. India must boost its industrial capacity across the critical minerals value chain, from advanced processing and metallurgical expertise to engineering services, machinery, and equipment manufacturing. Without strong domestic foundations, Indian firms will remain constrained in their ability to compete globally. Meeting this challenge will require more than policy signalling. It demands tailored financial instruments that de-risk long-gestation projects, sustained investments in R&D, and credible support for technical-feasibility studies, standards development, and workforce capabilities.

Ultimately, India's ability to expand its footprint in international critical minerals value chains will rest on the industrial strength it can demonstrate at home. Diplomatic frameworks, exploration partnerships, and G2G agreements can provide a springboard, but they cannot substitute for the technological depth and manufacturing capacity needed to operate at scale. In effect, India's global ambitions will only be as credible as the industrial ecosystem it builds at home, one capable of both participating in and shaping global critical mineral supply chains.

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Appendix

Table A–1: Select Indian Companies Operating in Africa

Serial Number	Name of Company	Primary Area of Activity (Stage in Value Chain)	Key Mineral/ Resource	Project/Country
1	Ashapura Minechem Ltd.	Mining of bauxite and iron ore; development of mining infrastructure	Bauxite	Guinea (Boffa, Fako, and Houda bauxite mines; Yamboli iron ore mine)
2	BABA Drilling & Exploration Company Ltd	Exploration and drilling services (geotechnical, hydro, environmental, and water-well drilling)	Drilling services	Zambia
3	Chemaf	Copper and cobalt mining and processing	Copper, cobalt	Democratic Republic of the Congo (Etoile and Mutoshi projects)
4	Dynamic Mining	Bauxite mining project (surface mining)	Bauxite (Direct Shipping Ore)	Guinea (Bon Ami project, Boké district)
5	Golden African Resources SARM	Production of copper cathodes and cobalt hydroxide using leaching and electrowinning	Copper, cobalt	Democratic Republic of the Congo
6	Gujarat Fluorochemicals Limited	Mining of fluorspar and production of fluorochemicals	Fluorspar (fluorite)	Morocco (Taourirt mine)
7	IMACID	Production of phosphoric acid from rock phosphate	Phosphoric acid	Morocco (Jorf Lasfar plant)
8	ICVL	Coal mining and production (acquired coal mines overseas)	Coking coal (also thermal coal)	Mozambique (Benga, Zambeze, and Tete Province)
9	Jindal Steel and Power Ltd.	Mining and development of coal and iron ore operations across Africa	Coal (coking, thermal, and anthracite), iron ore	Mozambique (Chirodzi), South Africa (Kiepersol and Melmoth)
10	Konkola Copper Mines (KCM)	Copper mining and smelting	Copper	Zambia (Konkola and Nchanga copper mines, Nkana smelter)
11	Skorpion Zinc	Openpit zinc mining and hydro/electrometallurgical refining	Zinc	Namibia (Skorpion Zinc Mine, Rosh Pinah)

Serial Number	Name of Company	Primary Area of Activity (Stage in Value Chain)	Key Mineral/Resource	Project/Country
12	Maamba Collieries	Opencast coal mining and power generation	Coal	Zambia (Maamba mine and 300 MW power plant)
13	Rubamin SARL	Production of copper blister and supply of industrial gases	Copper	Democratic Republic of the Congo (HautKatanga)
14	Rudra Copper Mining and Processing	Processing of copper slag to produce copper and cobalt	Copper, cobalt	Zambia (Chingola, copper slag re-processing facility)
15	Samata Mines	Exploration of copper, cobalt, gold, and nickel; recycling of metal scrap into copper and aluminium products	Copper, cobalt, gold, nickel; scrap metals	Morocco (Atlantic Free Zone and exploration permits), Democratic Republic of the Congo (Kasai Central Province), Uganda (nickel exploration)
16	Shiloh Manganese SA	Opencast manganese ore mining and processing	Manganese	Côte d'Ivoire (Korhogo area)
17	Somika	Mining and processing of copper and cobalt	Copper, cobalt	Democratic Republic of the Congo
18	Supreme Mineral Corporation	Bauxite and gold mining (surface mining)	Bauxite, gold	Sierra Leone (Kambia district for bauxite; Valunia Chiefdom for gold)
19	Tata Chemicals	Extraction and processing of trona to produce soda ash and salt	Trona (soda ash), salt	Kenya (Lake Magadi facility)
20	Vedanta Zinc International	Mining and processing of zinc, copper, lead, and silver	Zinc, copper, lead, silver	Namibia (Skorpion mine), South Africa (Black Mountain mine)

Source: Author's compilation.

Note: This table does not present an exhaustive inventory of Indian participation in the mining sector across Africa. Rather, it reflects a curated selection based on information triangulated from available primary and secondary sources. For this table, "Indian" includes both firms incorporated in India and enterprises owned or managed by persons of Indian origin.

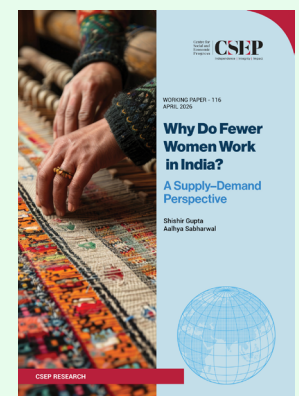
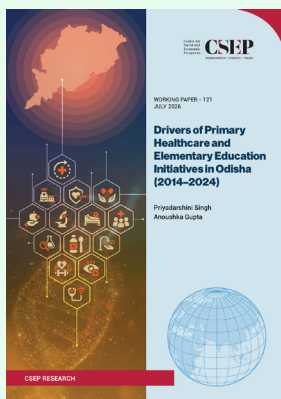
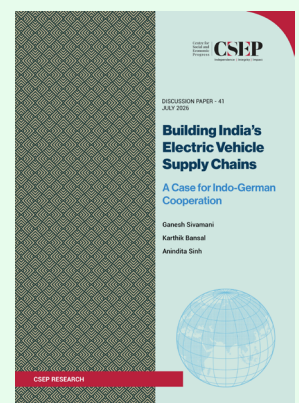
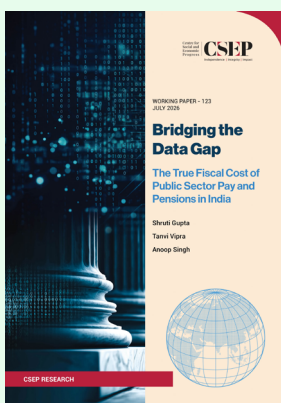
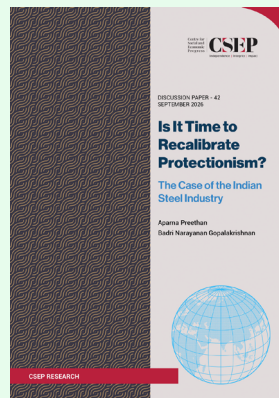
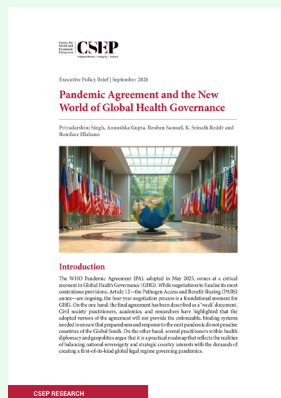
ICVL = International Coal Ventures Private Limited; KCM = Konkola Copper Mines; MW = megawatt; SA = société anonyme; SARL = société à responsabilité limitée.

About the author



Veda Vaidyanathan is a Fellow in Foreign Policy and Security Studies at CSEP. She examines Asian engagement in Africa from the grassroots, across multiple sectors and countries. These include financial services, mining, agriculture, infrastructure, and manufacturing in Zimbabwe, Zambia, Tanzania, Kenya, Ethiopia, and Ghana. Veda is also affiliated to the Institute of Chinese Studies and the Harvard University Asia Centre. She was a 2022-23 Fung Global Fellow at the Princeton Institute for International and Regional Studies at Princeton University.

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