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Issue Brief

The Quad, Africa, and Competition for Critical Minerals

Mohanasakthivel J

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Summary

The Quad's Critical Minerals Initiative is a timely response to the economic and strategic vulnerabilities created by overdependence on dominant suppliers, most notably China. The future of global critical mineral governance will be shaped not only by technology and capital but by inclusion, trust and partnership. The Quad's vision for a free, open, and resilient Indo-Pacific cannot be realised if Africa, home to some of the world's most vital mineral reserves, remains sidelined.

On 1 July 2025, during the 10th Quad Foreign Ministers' Meeting, the United States, India, Japan and Australia jointly announced the launch of the Quad Critical Minerals Initiative, signalling a commitment to securing and diversifying global critical mineral supply chains. As the initiative evolves, Africa must be given due consideration.[1] Africa is home to nearly 30 per cent of the world's known lithium, cobalt, graphite, and other rare earth elements reserves. As the global demand for these minerals is expected to surge by more than 500 per cent by 2050, driven by the growth of electric vehicles, renewable energy systems and energy storage technologies, Africa's role becomes pivotal.[2]

The initiative also underscores mounting anxiety over strategic vulnerabilities stemming from excessive dependence on China for mineral processing and refining. In their joint communiqué, the Quad members pointed to the threats of economic coercion, price manipulation and supply chain fragility, implicitly referencing Beijing's prevailing dominance in the critical minerals domain.[3]

These concerns are grounded in precedent. In 2010, China significantly tightened its rare earth mineral exports, slashing production by 25 per cent and export quotas by 37 per cent. While these measures were justified on environmental grounds and as an effort to curb rampant illegal mining, they were widely interpreted as strategic moves, particularly against the backdrop of rising tensions with Japan. The Chinese restricted export permits only to firms that met stringent environmental and industrial standards, further limiting global access. The resulting market shock led to a steep price surge and triggered international concerns over China's monopolistic control of the rare earth supply chain.[4] This episode culminated in a legal challenge at the World Trade Organization (WTO), filed by the US, the European Union (EU) and Japan. In 2014, the WTO ruled against China, compelling it to dismantle its export quotas and associated taxes by 2015.[5]

The rare earth dispute revealed the fragility of global supply chains and China's adept use of economic statecraft to leverage its dominance over critical mineral resources. Nearly a decade later, China resumed a more assertive approach to export controls, amid intensifying strategic competition with the West. Beginning in mid-2023, Beijing imposed new licensing requirements for gallium and germanium, two essential inputs for semiconductor manufacturing. By late 2023, these restrictions

[1] **"Joint Statement from the Quad Foreign Ministers' Meeting in Washington D.C."**, Ministry of External Affairs, Government of India, 2 July 2025.

[2] **"Africa's Critical Minerals, Africa at the Heart of a Low-Carbon Future"**, Mo Ibrahim Foundation, October 2022.

[3] **"Joint Statement from the Quad Foreign Ministers' Meeting in Washington D.C."**, no. 1.

[4] Yuzhou Shen, Ruthann Moomy and Roderick G. Eggert, **"China's Public Policies Toward Rare Earths, 1975–2018"**, *Mineral Economics*, Vol. 33, 2020, pp. 127–151.

[5] Ibid.

were extended to graphite, a critical component for electric vehicle batteries. In 2024, antimony, used extensively in munitions, was added to the list. Later that year, China implemented outright export bans on gallium, germanium and antimony to the US.[6] The September 2024 restriction on antimony alone resulted in a staggering 97 per cent drop in Chinese exports, triggering global supply shortages and dramatic price spikes.[7]

The trend continued into 2025. On 4 April, China further tightened its grip on the sector by requiring special export licenses for seven rare earth elements—samarium, gadolinium, terbium, dysprosium, lutetium, scandium and yttrium. These materials are essential for defence systems, renewable energy technologies and advanced automotive manufacturing. These restrictions were widely interpreted as retaliatory measures in response to heightened tariffs imposed by the second Trump administration. In addition, Beijing extended export controls to five more strategic metals—tungsten, indium, bismuth, tellurium and molybdenum.[8]

These successive restrictions have turned China's dominant market share into powerful chokepoints within the global critical mineral supply chains. The cumulative impact has raised alarm across major industrial economies. Countries such as Japan, South Korea, members of the EU and India are now actively seeking to diversify their imports, especially of graphite and other high-risk minerals, beyond China.[9] The export curbs have underscored the deep vulnerabilities within Western high-tech and defence manufacturing sectors, triggering an urgent push to 'de-risk' supply chains.

In response, the US and its allies have intensified their efforts to secure alternative sources of critical minerals. These include new exploration and mining initiatives in Africa, expanded strategic stockpiling and investments in refining and processing capabilities. The goal is to reduce dependence on China's mineral monopoly and build more resilient, transparent and geopolitically secure supply chains.

China's Critical Mineral Strategy in Africa

Despite Africa's vast geological wealth, mining investment remains limited due to high capital requirements, weak infrastructure, regulatory uncertainty and

[6] **"Trade Laws and Restrictions | Timeline and Implications"**, TDi Sustainability, 12 March 2025**.**

[7] Amy Lv and Tony Munroe, **"China Bans Export of Critical Minerals to US As Trade Tensions Escalate"**, *Reuters*, 3 December 2024.

[8] Amy Lv, Lewis Jackson and Ashitha Shivaprasad, **"China Expands Key Mineral Export Controls After US Imposes Tariffs",** *Reuters*, 4 February 2025.

[9] Emily Benson and Thibault Denamiel, **"China's New Graphite Restrictions"**, Center for Strategic & International Studies, 23 October 2023.

persistent perceptions of political risk. Africa only attracted 2.8 per cent of the US$ 17 billion in global specialist mining capital.[10] China, however, has systematically overcome these challenges through years of strategic engagement, employing innovative financing models such as limited-recourse project finance, joint ventures and resource-for-infrastructure agreements.

Africa's critical mineral reserves have become central to China's industrial and geopolitical strategy, with countries like the Democratic Republic of Congo, Zambia, Zimbabwe, Guinea and Madagascar forming key hubs in its global supply chain. What distinguishes China's approach is the scale of its investments, the depth of financial integration and the long-term nature of its mineral access mechanisms.

Between 2000 and 2021, China invested over US$ 13 billion in the DRC's mining sector alone, with 95 per cent of this capital directed towards projects owned by Chinese state-owned enterprises (SOEs). By 2022, these enterprises controlled 76 per cent of the DRC's cobalt production, most of which was exported directly to China, solidifying Beijing's dominance in a mineral essential for batteries and electric vehicles.[11]

Its innovative financing model is at the heart of China's engagement, particularly its preference for limited-recourse project finance. Rather than extending sovereign loans, China often channels funding into joint ventures or special purpose vehicles (SPVs) co-owned by Chinese SOEs and local African entities. These entities service their debts through future mineral revenues, thereby minimising the debt burden on African national budgets while guaranteeing long-term access to critical resources for Chinese firms. The Sicomines project in the DRC exemplifies this model: the Export-Import Bank of China financed US$ 3 billion worth of infrastructure development in exchange for rights to a significant copper-cobalt concession.[12]

China's resource-for-infrastructure (RFI) agreements further reinforce its supply chain integration. In countries like Zambia, Chinese financing has been used to construct transportation infrastructure such as roads, railways and bridges in return for access to copper reserves.[13] Guinea presents a similar case, with bauxite extraction directly linked to port infrastructure developed and managed by Chinese firms.[14] These deals form vertically integrated value chains where infrastructure

[10] Ben Payton, **"Miners Struggle to Raise Capital for African Critical Minerals Projects",** *African Business*, 14 February 2025.

[11] Brooke Escobar, Ammar A. Malik, Sheng Zhang, Katherine Walsh, Alexandra Joosse, Bradley C. Parks, Jacqueline Zimmerman and Rory Fedorochko, **"Power Playbook: Beijing's Bid to Secure Overseas Transition Minerals"**, AidData, William & Mary, 28 January 2025.

[12] Ibid.

[13] Conrad Juliá, **"Zambia Banks on China-Backed Rail Upgrade to Boost Mining Exports"**, The China-Global South Project, 7 May 2025.

[14] Qianrong Ding, Hayden Hubbard, Emily Larkin and Dawalola Shonibare, **"Chinese Resource-Backed Infrastructure Financing Investments: Comparing Governance in Guinea and Ghana"**,

development, mineral extraction and long-term offtake are bundled into a unified strategy dominated by Chinese actors.

China also employs legally binding offtake agreements to lock in predictable mineral flows. These contracts commit buyers to purchase future mine production before extraction, ensuring long-term access to materials such as lithium, copper and graphite. In Zimbabwe, Huayou Cobalt and Sinomine have embedded such clauses in lithium mining deals, while similar provisions govern graphite and nickel operations in Madagascar. These offtake agreements help China stabilise its industrial input streams and limit competition for key resources.[15]

Beijing has also moved to reduce large-scale mineral projects' financial and environmental risks. Since 2020, Chinese institutions have increasingly turned to syndicated lending co-financing arrangements involving multiple international financial actors. Approximately 80 per cent of China's overseas mineral-related lending is now syndicated, allowing risk-sharing and compliance with global environmental standards. A case in point is the Husab uranium mine in Namibia, where syndicated financing enabled adherence to strict environmental regulations. While uranium is not classified as a critical mineral or rare earth element, the project illustrates China's broader risk diversification strategy in resource diplomacy.[16]

In addition to structural financing innovation, Chinese banks such as the China Development Bank (CDB) and Export-Import Bank of China frequently offer concessional loans at below-market interest rates. In Malawi and Guinea, these loans give Chinese firms a significant edge, especially as Western financing remains risk-averse or is bogged down in regulatory hurdles. Such loans are usually bundled with Chinese contractors, engineers and equipment, enabling Beijing to exercise end-to-end control over the mineral value chain.[17]

From Bilateralism to Collective Engagement

Against the above backdrop, the Quad must implement robust, transparent and equitable mechanisms for engaging African partners. While the Quad's collective framework remains nascent, its member states have begun formulating and

China Africa Research Initiative (CARI), School of Advanced International Studies (SAIS), Johns Hopkins University, Washington, DC, 2021.

[15] William Clowes and Godfrey Marawanyika, **"China Mining Heavyweights Partner with Zimbabwe on Lithium Mine"**, *Bloomberg*, 24 September 2024.

[16] Brooke Escobar, Ammar A. Malik, Sheng Zhang, Katherine Walsh, Alexandra Joosse, Bradley C. Parks, Jacqueline Zimmerman and Rory Fedorochko, **"Power Playbook: Beijing's Bid to Secure Overseas Transition Minerals"**, no. 11.

[17] Ibid.

executing national strategies that increasingly incorporate Africa as a critical component of global supply chain diversification and resilience.

The Quad's Critical Minerals Initiative is a timely response to the economic and strategic vulnerabilities created by overdependence on dominant suppliers, most notably China. As demand for minerals crucial for clean energy technologies and digital infrastructure accelerates, so does the urgency for nations to diversify and de-risk their supply chains. Within the Quad, each member has independently expanded its footprint in Africa's mineral landscape. Yet, in the absence of a coherent, coordinated approach, the collective potential of the Quad remains underutilised, unable to match the scale, speed or integration of China's mineral diplomacy.

Japan's experience following the 2010 rare earth embargo imposed by China is a pivotal example. Heavily reliant on Beijing for more than 90 per cent of its rare earth imports at the time, Japan responded by investing over ¥100 billion in a national diversification strategy, eventually reducing its dependence to about 60 per cent.[18] This episode catalysed a shift in Tokyo's external economic engagement. This experience has reshaped Japan's domestic strategy and redefined its external outreach, with Africa emerging as a key partner in its quest for resource diversification.

Japan's engagement with Africa, long rooted in infrastructure diplomacy, has seen a gradual yet strategic pivot towards securing access to critical minerals essential for its industrial economy. While Tokyo has historically supported Africa's development through the Tokyo International Conference on African Development (TICAD), the emphasis is now expanding beyond traditional aid to encompass strategic resource partnerships. Japan has reoriented its approach to include strategic alliances in the critical minerals sector.

At TICAD 2022, Japan pledged US$ 30 billion for Africa's infrastructure development in energy, transport and telecommunications. In 2023, the Japan Organization for Metals and Energy Security (JOGMEC) signed agreements with Namibia, the Democratic Republic of the Congo (DRC) and Zambia. These countries are rich in cobalt, copper and rare earth elements. Beyond exploration, Japan's engagement prioritises environmental compliance and responsible mining, reflecting a commitment to high standards and long-term capacity building.[19] Its evolving model offers a valuable template for the Quad grounded in mutual development, rather than resource extraction alone.

[18] Tatsuya Terazawa, **"How Japan Solved Its Rare Earth Minerals Dependency Issue"**, World Economic Forum, 13 October 2023.

[19] Ben Payton, **"Japan Makes Inroads Into African Infrastructure"**, *African Business*, 12 June 2025.

While Japan's engagement reflects a development-oriented strategy anchored in high standards and long-term cooperation, Australia offers a commercially driven model that nonetheless complements and reinforces the broader goals of the Quad. Despite being a resource-rich nation, Australia sees Africa as a supplier and a strategic partner in transforming the global mineral economy. Nearly 170 Australian mining companies are active in 35 African countries, operating within the framework of Australia's Critical Minerals Strategy (2023–2030).[20]

The strategy stresses international cooperation, exemplified by the Australia–US Critical Minerals and Clean Energy Compact and parallel negotiations with India, Japan and the EU.[21] These are not confined to exports but aim to establish shared ESG standards, clean processing mechanisms, and diversified and ethical supply chains. Australia can bring technical expertise and de-risking tools to the African context by drawing from its successful domestic initiative 'Exploring for the Future', which has led to over 400 new mineral exploration tenements. Financing platforms such as the A$ 2 billion Critical Minerals Facility and the A$ 57.1 million[22] International Partnerships Program already support joint ventures and could be scaled through Quad coordination.

What distinguishes Australia's approach is its emphasis on ESG compliance and value addition. It actively promotes decarbonisation of mining, local community participation and circular economy principles, aligning with Africa's aspirations for resource sovereignty and downstream manufacturing. Australian companies have secured nearly 90 per cent of Tanzania's recent mineral exploration licenses, suggesting strong trust and compatibility.[23] This momentum is further reinforced through diplomatic engagement in Morocco, Ghana and South Africa.[24] For the Quad, Australia brings governance expertise and sustainability leadership that can help shape a more equitable and resilient mineral supply chain.

As Australia anchors its approach to Africa on governance and environmental standards, India's evolving strategy reflects a clear commitment to long-term partnerships in Africa's mineral sector. India's engagement with Africa's mineral sector has transitioned remarkably from being a passive importer of raw materials to an active overseas investor in upstream extraction. The establishment of India's

[20] **"Africa Region Brief"**, Department of Foreign Affairs and Trade, Australian Government.

[21] **"Critical Minerals Strategy 2023–2030"**, Department of Industry, Science and Resources, Australian Government, 7 July 2023.

[22] Ibid.

[23] **"East Africa Seeks Australian METS Know-How"**, AUSTRADE, Australian Trade and Investment Commission, 24 October 2023.

[24] James Ndwaru, **"Australia's Growing Footprint in Africa's Mining Sector"**, *The Exchange Africa*, 22 December 2023.

National Critical Minerals Mission in January 2025 and the global expansion of Khanij Bidesh India Ltd. (KABIL) mark a decisive shift in strategic thinking.[25]

KABIL has secured lithium assets in Argentina and is pursuing cobalt and copper ventures in Zambia, the DRC and Côte d'Ivoire. Over the past two years, India has significantly intensified its diplomatic and technical outreach to African mineral-rich countries. In June 2024, it held Joint Working Group meetings with Zambia to deepen cooperation on copper and cobalt, building on an existing MoU. Around the same time, an Indian delegation participated in the DRC's Mining Week in Lubumbashi to explore future collaboration.[26] By February 2025, Indian officials discussed investment opportunities in lithium, rare earths and other key minerals at Mining Indaba in South Africa.[27] A breakthrough followed in July 2025, when India secured 9,000 sq km of mineral exploration rights in Zambia.[28] Prime Minister Narendra Modi's visits to Ghana and Namibia in July 2025 further elevated the scale and significance of India's critical minerals diplomacy.[29]

Unlike the other Quad members, whose approaches blend economic development, environmental governance and diplomatic engagement, the US model stands out as overtly security-driven, viewing critical minerals primarily through a national security lens. The US has firmly linked mineral security with its broader national security objectives, especially after President Donald Trump's return to office in 2025. Through the Development Finance Corporation and the Department of Defense, Washington seeks to create alternative corridors and reduce reliance on Chinese-controlled routes. The Lobito Corridor, which connects the mineral heartlands of Zambia and the DRC to ports in Angola, is a flagship initiative.[30] Via the Mineral Security Partnership (MSP),[31] the US also promotes transparency, labour rights and ESG standards, which are especially critical in regions with governance deficits. However, the American approach often appears fragmented and transactional, raising concerns over long-term reliability.

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[25] **"Powering India's Clean Energy Future"**, National Critical Mineral Mission, Press Information Bureau, Ministry of Mines, Government of India, 9 April 2025.

[26] **"Visit of Indian Delegation to International Mining Events in FY 2024-25",** Ministry of Mines, Government of India.

[27] **"India Pavilion Inaugurated at Mining Indaba 2025"**, Ministry of Mines, Government of India, 3 February 2025.

[28] Neha Arora, **"India Sends Geologists to Zambia to Explore Copper and Cobalt Deposits, Sources Say"**, *Reuters*, 1 July 2025.

[29] Aurel Sèdjro Houenou, **"Critical Minerals: India's African Offensive Takes Shape Amid Competition"**, *Ecofin Agency*, 2 July 2025.

[30] Gracelin Baskaran, **"Building Critical Minerals Cooperation Between the United States and the Democratic Republic of the Congo"**, Center for Strategic and International Studies, 25 March 2025.

[31] **"Minerals Security Partnership"**, U.S. Department of State.

On 9 July 2025, President Trump hosted a high-level mini-summit in Washington with the presidents of Gabon, Guinea-Bissau, Liberia, Mauritania and Senegal, five coastal West African nations situated in a minerals-rich corridor critical to global supply chains. This engagement is emblematic of Trump's Africa strategy, which sidelines traditional development aid in favour of private sector-led economic partnerships.[32] This commercial pivot was further underscored at the US–Africa Business Summit in Luanda in June 2025, where the US State Department announced US$ 2.5 billion in new deals, signalling Washington's intent to deepen market access and secure strategic resources through bilateral commercial arrangements.[33] Parallel to these diplomatic engagements, the Trump administration also leverages trade policy as a tool of influence. These developments reflect a broader recalibration of US–Africa trade relations to secure long-term economic footholds in regions vital to the critical mineral supply chain.

Despite these active national efforts, the absence of a unified Quad strategy undermines the potential for deeper engagement with Africa. The continent is no longer a passive resource base. Armed with frameworks like the African Union's Green Minerals Strategy[34] and the African Mining Vision,[35] countries such as Namibia, Ghana and Zimbabwe assert stronger demands for value addition, local employment and sustainable mining.[36] As global powers, including BRICS+[37], the G7[38] and the EU,[39] advance their mineral frameworks, Africa is emerging as a supplier and a co-architect of international rules. In this context, the Quad must align its policies with Africa's development aspirations or risk irrelevance.

Recent events also underscore the strategic costs of inadequate coordination within the Quad. India's sudden suspension of rare earth exports to Japan, ending a 13-year-old agreement, is a case in point. While driven by legitimate concerns over securing domestic supply and reducing dependence on China, it also highlighted the fragility of bilateral arrangements in the absence of a multilateral framework.[40] As Japan has been a long-time investor in India's rare earth value chain, such

[32] Monika Pronczuk and Darlene Superville, **"Trump Promises West African Leaders A Pivot To Trade As The Region Reels From Sweeping Aid Cuts"**, *The Associated Press*, 10 July 2025.

[33] **"Record-Breaking U.S.-Africa Business Summit Yields $2.5 Billion in Deals and Commitments"**, U.S. Department of State, 30 June 2025.

[34] **"Africa`s Green Minerals Strategy (AGMS)"**, African Union, 18 March 2025.

[35] **"Africa Mining Vision (AMV)"**, African Union, 12 February 2010.

[36] Antony Sguazzin, **"Next Africa: Resource Nationalism or a Fair Share?"**, *Bloomberg*, 20 June 2023.

[37] **"Rio de Janeiro Declaration- Strengthening Global South Cooperation for a More Inclusive and Sustainable Governance"**, Press Information Bureau, Prime Minister's Office, Government of India, 7 July 2025.

[38] **"G7 Critical Minerals Action Plan"**, G7 2025 Kananaskis, 17 June 2025.

[39] **"Critical Raw Materials"**, European Commission.

[40] Neha Arora and Aditi Shah, **"India Moves To Conserve Its Rare Earths, Seeks Halt To Japan Exports"**, *Reuters*, 16 June 2025.

disruptions expose the lack of an institutional mechanism for policy consultations, dispute management and expectation alignment within the Quad. Without such guardrails, the internal cohesion that gives the Quad its strategic strength could be compromised.

From now on, the Quad must move from parallel bilateralism to coordinated collective action. It needs shared platforms for investment, transparent rules for intra-group trade and early-warning systems to mitigate policy shocks. Internal consistency, especially from the US, will be critical to maintaining strategic alignment. Equally important is reimagining mineral security from the African perspective.

Most existing critical mineral frameworks fail to address Africa's broader developmental needs. For the continent, mineral security must go beyond traditional extraction to include inputs essential for food security, like fertilizers, materials for infrastructure such as cement, and components for water purification. This is where current global strategies fall short. The Quad has a chance to offer a distinct approach by supporting local manufacturing, establishing processing facilities, and ensuring mineral-based products like batteries and solar panels remain accessible. Innovative models such as "materials-as-a-service",[41] enabling producing countries to maintain a stake throughout the value chain, could help reshape global mineral partnerships more equitably.

The future of global critical mineral governance will be shaped not only by technology and capital but by inclusion, trust and partnership. The Quad's vision for a free, open and resilient Indo-Pacific cannot be realised if Africa, home to some of the world's most vital mineral reserves, remains sidelined. While each Quad member brings a unique advantage, India's Global South outreach, Japan's technological acumen, Australia's mining expertise, and the US' financial clout, the absence of a unified, Africa-centered strategy limits their collective potential. Africa is not merely a resource supplier but is an increasingly assertive actor, seeking value addition, environmental safeguards, and a say in shaping the rules of the global mineral economy. The challenge now is to move from alignment in principle to action in practice. By placing Africa at the centre, the Quad can transcend narrow security framings and offer a compelling, inclusive alternative to China's mineral dominance.

[41] Daniel M. Franks and Rüya Perincek, **"Africa Needs Mineral Security, Too"**, Project Syndicate, 3 February 2025.

About the Author

Mr. Mohanasakthivel J is Research Analyst at the Manohar Parrikar Institute for Defence Studies and Analyses, New Delhi.

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Manohar Parrikar Institute for Defence Studies and Analyses
1, Development Enclave, Rao Tula Ram Marg
New Delhi 110 010 India
T +91-11-2671 7983 F +91-11-2615 4191
www.idsa.in
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