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Critical Minerals in Africa: Environmental Concerns, Geopolitical Competition, and Economic Strategies

Introduction

Countries in Africa, like the Democratic Republic of Congo (DRC), account for some of the [world's largest reserves of critical minerals](#). The continent accounts for about [30% of the world's cobalt reserves](#), 15% of the world's manganese reserves, and 10% of the world's rare earth element reserves. Critical minerals are crucial to producing a wide range of technologies that are key to battling climate change, such as electric vehicles, wind turbines, solar panels and smart grids. Minerals like lithium, cobalt, graphite, copper, silver and zinc are essential for these technologies.

The demand for critical minerals is [expected to grow significantly](#) in the coming years as the world transitions to a clean energy economy. The supply of critical minerals is concentrated in a few countries, some of which are in Africa. These African countries are uniquely positioned to affect climate change domestically and globally. How they respond to rising demand will impact domestic outcomes and international politics. There is already increasing geopolitical competition for access to these resources. [China dominates global](#) critical mineral supply chains, accounting for 60% of global manufacturing and 85% of processing capability. US President Biden's administration is [working to change this](#) by carrying out more active diplomacy on the continent and working with allies in the EU and G7 to secure supply lines.

For Africa and its people, there are two issues to understand as the demand for critical minerals increase.

Environmental & Health Impact

The mining of critical minerals can have a significant effect on the environment. Researchers from the University of Leuven in Belgium and the University of Lubumbashi in the DRC found that the mining of cobalt in the DRC had a significant and negative impact on the environment.

They found that the dust released during the extraction process damaged the plants and soil in the area. People in the contaminated area produced food from contaminated soil, used water filled with toxic mining waste, and suffered from diseases such as cancer, ulcers and other gastric complications.

Analyses of blood and urine samples from 72 residents of the Kasulo mining district showed that children living there had ten times more cobalt in their urine than others.

For Africans, mining and extracting critical minerals pose a risk to the local environment and long-term health outcomes. African leaders and policymakers will need to pay close attention to mining regulations and practices on the continent to prevent sustained environmental damage and a decline in the health of its population. The government should set land, air and water quality standards for mining operations to protect these resources. They can also provide financial incentives for mining companies that adopt environmentally friendly practices.

Geopolitical Risks

This increasing demand for and dependence on critical minerals has made Africa a crucial player in the global critical mineral supply chain and sparked [the new scramble for Africa](#). Global powers like China, the EU and the US are operating on the continent to ensure their continued access to minerals from the continent.

China appears to have taken the lead in accessing resources and building relations on the continent. In the DRC, China [owns 15 out of the 17](#) cobalt mining operations in the country. In 2019, [China imported nearly \\$10 billion](#) of minerals from sub-Saharan Africa.

This represented a 26% increase from 2018. China's investment in Africa's critical mineral sector has been driven by several factors, including the growing demand for essential minerals in China's domestic economy.

For Global North, there appears to be a race to catch up with China's access to minimise its vulnerability towards China. In 2019, the US Department of Defence [entered negotiations](#) with Malawi and Burundi to discuss support for several projects to ensure

future rare earth supplies. The [European Union has begun](#) to work on establishing new strategic partnerships with African countries to build its supply chain.

African policymakers now contend with larger economies eager to secure their access and interests. They must ensure their decisions do not negatively impact the continent and its people. There is already some evidence that they are doing this. [Zambia's President, Hakainde Hichilema, was elected](#) in August 2021, and he pledged to take advantage of the rising demand for copper to remedy the country's economic problems. In May 2023, President Felix Tshisekedi of the Democratic Republic of Congo (DRC) [was in China, renegotiating](#) mining contracts for the DRC's mineral reserves.

Resource Curse

The resource curse, also known as the poverty paradox, is the phenomenon of countries with abundant natural resources (such as fossil fuels and certain minerals) having less economic growth or worse development outcomes than countries with fewer natural resources. It happens when too much of the country's capital and labour force are concentrated in just a few resource-dependent industries. This failure to invest in other sectors leaves the country vulnerable to commodity price shocks which could cause long-term economic underperformance.

There is evidence that the resource curse has taken hold on the continent. Countries like Nigeria, Angola and the Democratic Republic of Congo are often cited as examples. For African countries with already weak and underdeveloped economies, it is essential to diversify their focus. Investing primarily in critical minerals with high and volatile prices could worsen economic conditions and prospects. Some countries are working to prevent this situation; Botswana is leveraging its resources to generate economic growth.

Conclusion

Africa is a crucial player in the global critical mineral supply chain. The continent has some of the world's largest reserves of critical minerals, which are essential for producing a wide range of technologies that are key to battling climate change. However, the mining of critical minerals can have a significant impact on the environment and the health of local communities.

African leaders and policymakers will need to pay close attention to mining regulations and practices on the continent to prevent sustained environmental damage and a decline in the health of its population. They must also ensure their decisions do not negatively impact the continent and its people.

In addition, African countries need to diversify their focus and invest in other sectors to avoid the resource curse. By taking these steps, Africa can ensure that it benefits from the growing demand for critical minerals and plays a leading role in the global transition to a clean energy economy.



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