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ISSUE **28**



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CHAIRMAN'S FOREWORD

Dear Esteemed Delegates, Investors, and Partners, Welcome to the 14th Mineral Wealth Conference in Kampala. It is with a sense of profound purpose that we gather at a truly transformative moment for Uganda's mineral sector. This conference is a critical platform for strategic dialogue, designed to accelerate our nation's economic vision, which is now becoming a tangible reality under the comprehensive Mining and Minerals Act, 2022.

Beyond the high-profile gold sector, Uganda's geological landscape reveals a diverse tapestry of wealth. Recent national surveys have confirmed substantial deposits of critical minerals essential for the global green transition. These include rare earth elements (REEs) like niobium and antimony, along with key industrial minerals such as graphite, which are vital for modern technology and renewable energy. Our focus on domestic value addition extends to significant iron ore deposits, including 50 million tonnes of high-quality hematite.

We are also actively developing our potential in tin, tantalum, and tungsten—the so-called 3Ts—which have long been a part of our export portfolio. The conference will also spotlight the growing potential of our gemstone sector, from emeralds and rubies to sapphires, which represent an exciting frontier for investment and value creation.

This strategic shift away from raw material export to a value-adding industrial hub is already yielding concrete results. The opening of Uganda's first large-scale gold mine is a powerful case study, with projected annual production of 1.2 tonnes of refined gold, a dramatic increase of 28,471% over the previous annual production of 0.0042 tonnes.

This monumental project is expected to generate an estimated \$15 million in annual tax revenue, a significant leap from the minimal revenue of the informal sector. While the potential for the mineral sector to contribute \$20 billion annually to Uganda's GDP is significant, the sector attracted only \$3 billion in foreign direct investment in the 2023-2024 financial year. This gap highlights the immense opportunity that lies ahead and underscores the importance of the conference's focus on bridging this investment gap.

This journey is not a solo endeavour; it is a shared vision that requires the unwavering partnership of the government, the private sector, local communities, and our international allies. We believe that by working together, leveraging our natural wealth with our human capital and a sound regulatory framework, we can build a resilient future. We position Uganda not merely as a source of minerals but as a leader in sustainable development and a model for the continent.

We extend our sincere thanks to all our partners, delegates, and speakers for contributing their expertise and time. We look forward to the robust discussions and strategic outcomes of the next two days.

With warm regards,
Mr. Aggrey Ashaba
Chairman Governing Council,
Uganda Chamber of Energy and Minerals

INNOVATION AND SUSTAINABILITY

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CEO'S NOTE



It is with immense pleasure and a deep sense of optimism that I welcome you to the 14th Annual Mineral Wealth Conference. As we gather here today, we do so reflecting on a year of profound progress, a year where our commitment to the theme of our last conference, "Leveraging Critical Minerals for Sustainable Development and Economic Transformation," has begun to yield tangible results, guided by a robust and evolving policy framework aligned with National Development Plan 4, Uganda Vision 2040, the Africa Mining Vision, and the UN Sustainable Development Goals.

The foundation for this progress was the creation of a stable and predictable environment for investors. Our government moved decisively to fortify the legal and regulatory framework, operationalizing the Mining and Minerals Act of 2022 with a suite of gazetted regulations. This includes instruments for licensing, and notably, the Artisanal Mining Regulations of 2025, which are critical for formalizing a sector that employs thousands of Ugandans. Government has embraced a more inclusive and participatory approach, recognizing that effective regulations are built on broad consensus. This robust foundation is designed to create a more transparent and predictable business environment for every investor.

A major institutional milestone was the formal launch of the Uganda National Mining Company (UNMC) which is now fully operational. This state-owned entity, modeled on the successful petroleum sector, is designed to manage mineral exploration, the state's commercial interests, including a non-dilutable 15% equity stake in all large and medium-scale projects, and to champion national content—a principle that is further being refined through pending Local Content Regulations.

Perhaps the most significant achievement has been the completion of Uganda's nationwide airborne geophysical survey. The results for the remaining 20% of the country, specifically the Karamoja and Lamwo regions, were launched in January 2025. This five-year, €20 million project is a true game-changer. By creating a digitized national database of high-resolution data, we have eliminated the guesswork from mineral licensing. This data, which will be managed under forthcoming Government Laboratory and Mining Services Regulations, proves to the world that our mineral potential is not just a promise, but a quantified, data-backed opportunity. This addresses a key challenge identified in our situation analysis: the need for comprehensive resource evaluation to move from 'inferred' to 'measured and indicated' resources that attract serious investment.

This data has confirmed a vast and diverse mineral portfolio, positioning Uganda as a key future supplier for the global energy transition. We now have confirmed reserves of over 500 million tonnes of high-grade iron ore. The country's first large-scale gold mine, the Wagagai Gold Mine, was launched in 2025, with the capacity to produce 1.2 metric tons of refined gold annually, a staggering increase from the mere 0.0042 tons of domestic production in 2023. This leap forward in value addition is supported by specific regulations like The Mining and Minerals (Export of Refined Gold) Regulations 2024.

Uganda's Rare Earth Elements (REEs) potential is also immense, with over 600 million tons of

resources identified at the Makuutu project. Furthermore, Uganda's graphite deposits in Kitgum have an initial resource of 24.5 million tonnes. We also hold significant reserves of the "3Ts" (tin, tungsten, and tantalum), with recent surveys identifying over 28 million tonnes of Tungsten/Wolfram. Uganda's industrial minerals sector is equally promising, with new data highlighting over 300 million tonnes of limestone and marble in Karamoja.

The Karamoja region, which hosts occurrences of over 50 different economic minerals, has drawn an estimated 18,000 people into artisanal and small-scale mining (ASM). The informal contributions from this sector are significant, and our new regulations are designed to formalize these operations, providing biometric registration, extension services, and a path to legalization, transforming ASM into a legal, formalized, and safe activity that contributes significantly to local livelihoods and the national economy.

A landmark moment for our nation came in March 2025, with the signing of our first-ever Mineral Production Sharing Agreement for the redevelopment of the historic Kilembe Copper Mines. This flagship project, spearheaded by the Sarrai Group, holds estimated deposits of over 6.5 million tonnes of copper ore and 5.5 million tonnes of cobalt ore. The revival of Kilembe is a top priority and will serve as a benchmark for future projects, informed by the need for clear Fiscal Regulations and Community Development Agreements (CDAs) that ensure benefits are shared equitably and sustainably, in line with international best practices.

The strategic policy of banning raw mineral exports has been central to value addition and

industrialization. This is already taking shape with companies like Tembo Steels establishing an entire value chain for the iron and steel industry. We recognize that achieving this fully requires addressing infrastructure gaps, particularly in affordable energy and rail transport for commodities like iron ore. This commitment is underpinned by the new National Development Plan (NDP-IV), which aims to grow the sector's contribution to GDP from % to 10% in the coming years—a key component of Uganda's vision for tenfold growth by 2040.

The **14th Mineral Wealth Conference** is more than just an event; it is a critical platform for strategic partnerships. Our task now is to attract the patient capital and foster the collaborations needed to build on this momentum. We must fast-track the remaining regulations, especially those for national content, community development agreements, and a comprehensive fiscal regime that provides clarity on royalties, taxes, and incentives. These regulations will be informed by detailed commercial threshold studies to ensure they are market-friendly and attractive to investment.

By continuing to invest in exploration, infrastructure, and value addition—and by governing this sector with transparency, inclusivity, and a clear-eyed view of both our potential and our challenges—we can cement Uganda's position as a critical and responsible player in the green energy revolution. Let us use this conference to forge the connections that will unlock a sustainable and prosperous future for our nation.

Mr. Humphrey Asiimwe

CEO - Uganda Chamber of Energy and Minerals



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Overview

Kyoga Dynamics Ltd. is a leading joint venture established in 2015 by China Wanbao Engineering Co., Ltd. and Luwero Industries Ltd., under the National Enterprises Corporation. The company specializes in the production, sales, storage, logistics, import and export of civil explosives and blasting materials, as well as providing related technical support and blasting services. Kyoga Dynamics Ltd. is governed by the Board of Directors and managed by the executive team.

The company's mission is to deliver high-quality, safe explosives and blasting services, adding value through professionalism and reliability. By advancing the civil explosives industry, the company aims to drive economic growth and social change in Uganda and East Africa, while empowering employee development, enhancing shareholder value, and fostering social responsibility and sustainability. The company's vision is to become the leading enterprise in civil explosives and blasting services in East Africa. Kyoga Dynamics Ltd. upholds core values centered around customer focus, safety first, trust and collaboration, efficient operations, and integrity and responsibility. These guiding principles are at the heart of the company's strategy, driving its expanding influence and leadership in the region.

Our Products

KINMEX® Packaged Emulsion Explosives

KINMEX® is a high-performance emulsion explosive designed for demanding civil blasting. It delivers high velocity of detonation (VOD) and energy output, excelling in open-pit, underground, and wet hole blasting. With superior waterproofing and coupling, it ensures optimal rock contact and maximum efficiency, while its stable composition guarantees safety and reliability in tough environments.



KINANFO® ANFO Explosives

KINANFO® ANFO explosive is a high-efficiency blasting material produced with advanced equipment, featuring strong detonation power and uniform mixing. It is ideal for large-diameter dry hole open-pit blasting, offering precise metering, cost reduction, and enhanced loading efficiency. The product line includes Common ANFO (KINANFO-COM) and Long-Term ANFO (KINANFO-LT), with the latter offering an extended shelf life. Safe and reliable, KINANFO® ANFO is the optimal choice for large-scale blasting operations.



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Our Business

KYOGA DYNAMICS LTD

Kyoga Dynamics Ltd. offers a comprehensive range of services covering production, transportation, import & export, technical support, and blasting services. With advanced production capabilities, a reliable logistics network, extensive international market reach, robust technical support, and a specialized blasting construction team, we provide one-stop solutions for the civil explosives industry.

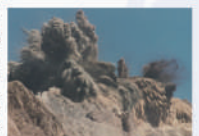
Production

Kyoga Dynamics Ltd. manufactures high-quality civil explosives, including emulsion explosives, ANFO explosives, and detonators. Leveraging advanced production facilities and strict quality control measures, we ensure the safety and consistency of every batch of products to meet the diverse needs of our clients.



Blasting Services

Kyoga Dynamics Ltd. possesses a professional blasting design and construction team equipped with a wide range of large-scale equipment, including ANFO mixing trucks and large drilling rigs. We offer comprehensive, end-to-end services from blasting design to execution. Our commitment is to provide clients with safe, precise, and efficient blasting solutions.



Logistics

We provide comprehensive logistics services for civil explosives, including warehousing, transportation, and armed escort. Our specialized storage facilities and experienced escort teams ensure the safety and efficiency of product transport.



Technical Support

The company offers comprehensive technical support for all aspects related to civil explosives, including product technical consulting, operational training, and on-site technical guidance. Our technical team, with extensive industry experience, delivers professional solutions to ensure the safety and efficiency of every operation.



Import & Export

Kyoga Dynamics Ltd. exports products across ten East African countries and imports equipment and materials related to civil explosives. Our familiarity with international trade regulations and logistics management ensures the safe and smooth global flow of products and equipment.



01

UNLOCKING UGANDA'S MINERAL POTENTIAL BY DR. PATRICIA LITHO, HEAD OF COMMUNICATIONS, MINISTRY OF ENERGY AND MINERAL DEVELOPMENT



Dr. Patricia Litho

Head of Communications, Ministry of Energy and Mineral Development

Uganda today stands on the cusp of a transformation one that has the power to redefine its economy, create vast opportunities for its people, and position the country as a key player in the global mineral economy. Beneath our soil lies an abundance of natural wealth gold, copper, cobalt, limestone, iron ore, rare earth elements, and graphite. These resources, if harnessed responsibly, offer Uganda a once-in-a-generation opportunity to fast-track industrialization and deliver lasting prosperity.

The upcoming Mineral Wealth Conference (MWC) themed "Unlocking Uganda's Mineral Potential" speaks directly to this moment. It calls on stakeholders government, private sector, communities, and development partners—to reflect on how best to turn resources into real socio-economic benefits.

Strong Policy and Institutional Reforms

The Government of Uganda has been deliberate about putting in place a solid foundation to attract and protect investment in the mineral sector. A cornerstone of this effort is the Mining and Minerals Act, 2022, a progressive law designed to ensure transparency, accountability, and investor

confidence. This framework sets the tone for a modern, competitive, and well-regulated industry. But laws alone are not enough. Uganda is also prioritizing infrastructure particularly in energy, transport, and ICT to make mining investments viable and sustainable. Improved roads and power supply, digital systems, and stronger institutional capacity all contribute to an enabling environment where investors, both local and international, can thrive.

Moving Beyond Extraction

One of the biggest shifts in Uganda's strategy is the focus on value addition. For too long, African countries have exported raw minerals, only to import expensive finished products. Uganda is determined to break this cycle. By investing in processing and manufacturing, we can create more jobs, increase revenues, and develop industries that link directly to the regional and global value chains.

Take iron ore and limestone, for example two resources with the potential to transform Uganda's steel and cement industries. With the right investments, these minerals could power not just construction and infrastructure development within Uganda, but also supply regional markets, strengthening East Africa's position as a manufacturing hub.

People at the Centre

Unlocking mineral potential is not just about the resources, it is about the people. Uganda's strategy emphasizes skills development and training so that Ugandans are not left behind but are at the forefront of mining innovations, engineering, and management. Equipping young people with technical skills ensures the sector creates lasting opportunities for employment and entrepreneurship.

The government is also formalizing artisanal and small-scale mining (ASM). For many Ugandans, ASM is not just an economic activity but a livelihood. By organizing, training, and supporting these miners, Uganda can improve safety standards, increase productivity, and ensure that revenues are shared more fairly while reducing the risks of environmental damage.

Sustainability and Stewardship

A sustainable mineral sector must go hand in hand with environmental stewardship. Mining can be disruptive if not well managed, but Uganda is committed to ensuring that operations respect both people and planet. Environmental safeguards, responsible land use, and community engagement

are at the heart of our approach. After all, true prosperity must be sustainable and inclusive, leaving no community behind.

A Future of Shared Prosperity

Unlocking Uganda's mineral potential is not just about extraction. It is about shaping a future where the country's natural wealth fuels broad-based socio-economic transformation. It is about building resilience, creating industries that last, and opening up opportunities for Ugandans in every region of the country. As we look ahead, the message is clear: Uganda's minerals are more than resources in the ground—they are steppingstones to a more industrialized, self-reliant, and prosperous nation. The challenge before us is to ensure that this transformation is managed with vision, integrity, and inclusiveness.

The Mineral Wealth Conference is therefore more than an event it is a call to action. Together, we can unlock Uganda's mineral potential and ensure that the benefits reach every Ugandan, today and for generations to come.



Unlocking Uganda's mineral potential is not just about extraction. It is about shaping a future where the country's natural wealth fuels broad based socio-economic transformation.



2022

HOW POSTBANK IS POSITIONED TO TRANSFORM UGANDA'S MINERALS SECTOR INTO SHARED PROSPERITY

Uganda today stands on the cusp of a Introduction:

A New Chapter for Uganda's Mining Finance
Uganda's mining sector is entering a crucial decade brimming with potential and promise. With an impressive endowment of gold, copper, iron ore, cobalt, lithium, uranium, limestone, rare-earth minerals, nickel, graphite, marble sand, and various industrial minerals, the country stands on the brink of a transformation. As these valuable resources gain recognition, the focus is shifting from extraction to the broader implications for job creation, industrialization, improved livelihood and social economic transformation.

In reference to the NDPIV, the Mineral sector is earmarked as a key driver to propel Uganda to achieve its Tenfold Growth Strategy. Minerals are projected to increase revenue from the current UGX 180Bn as FY2023/24 to 750Bn by FY 2029/30.

On that note, the financial sector plays a key role in supporting this aspiration. As a government bank, we are mandated to support this plan and PostBank Uganda which is rebranding to Pearl Bank, is aligned with the needs across the value chain of the mining sector, where access to financing remains a significant hurdle for many stakeholders, including miners, artisans, small and medium-sized enterprises (SMEs), and local communities in mining areas.

Bridging the Financial Gap

For many involved in Uganda's mining sector, securing financing for development, equipment, working capital and technology integration can be a formidable task. High capital requirements and insufficient access to credit can inhibit progress, particularly for small-scale miners and SMEs that form the backbone of the industry.

Through partnerships and government interventions, the bank is solutioning for Concessional financing mechanisms to extend patient and affordable credit facilities. Our products and services support the entire value chain ranging from equipment acquisition, working capital, trade finance solutions for miners and related businesses to supporting the Artisanal miners through our strong Group/Cooperatives value preposition.

Supporting Value Addition

In line with the objective of increasing investment in extractive value addition, enhancing human and local enterprise capacity through beneficiation and refining to transform the economy by building primary, secondary, and tertiary industries such as petrochemicals, PostBank is committed to financing initiatives that promote local processing and manufacturing thereby increasing export earnings and job creation.



Educational programs and workshops facilitated by PostBank also equip miners and artisans with knowledge about modern mining techniques, safety standards, and sustainable practices. In addition, we support artisanal miners with formalizing their businesses and financial literacy programs. This commitment not only elevates their technical proficiency but also ensures that mining activities provide sufficient supply of quality raw materials to support processing industries.

Fostering Environmental and Social Governance

The benefits derived from mining should extend beyond financial gain. PostBank is dedicated to promoting ethical practices within the mining sector. Implementing Environmental, Social and Governance (ESG) principles is crucial for minimizing the ecological footprint of mining activities and ensuring that local communities benefit from mineral wealth. Through collaboration with partners, PostBank helps miners adopt sustainable mining practices by financing eco-friendly technologies and ESG compliant businesses. We promote community-involved monitoring to facilitate a healthier relationship between mining entities and their surrounding environments.

The bank, in partnership with stakeholders, has invested in training its staff in Green Financing. In addition, we have an ESG framework policy that enforces adherence to environmental and safety regulations, fostering a responsible approach to resource management.

Conclusion: A Vision for Inclusive Growth

As Uganda stands poised to unlock its mineral wealth, the synergy between Financial Institutions and the mining sector is critical for socio-economic transformation. By understanding and addressing the unique challenges faced by miners, artisans, SMEs, and communities, PostBank is well positioned to inspire shared prosperity that uplifts the entire nation. With the right financial support, Uganda will not only harness its rich mineral resources but also craft a legacy of inclusive growth that benefits all Ugandans.

03

SUSTAINABLE DEVELOPMENT OF THE MINING SECTOR IN UGANDA (SDMU) PROJECT



copyright GIZ

The Sustainable Development of the Mining Sector in Uganda (SDMU) project, co-financed by the German Government and the European Union, is implemented by GIZ in partnership with the Ministry of Energy and Mineral Development. Scheduled to run from 2025 to 2027, the project seeks to transform Uganda's mineral sector to contribute to socio-economic development while promoting regional cooperation on peace, security, and responsible resource governance in the Great Lakes Region.

Uganda is endowed with significant mineral deposits including graphite, nickel, copper, and cobalt that are vital for renewable energy technologies and the global shift to a low-carbon economy. However, this potential has yet to translate into broad-based growth. Artisanal and small-scale mining (ASM) sustains thousands of livelihoods, but informality, unsafe practices, environmental degradation, limited finance, incomplete geological data, and weak oversight continue to hold back progress. The Government of Uganda has taken steps to address

these challenges, most notably through the Mining and Minerals Act, 2022. The Act seeks to formalise artisanal mining, promote responsible practices, and increase the sector's contribution to national development. Yet legislation alone is insufficient; real transformation requires professionalisation of operations, stronger governance, and investment across the mineral value chain.

The SDMU project responds by promoting responsible and sustainable mining practices aligned with international standards such as those of the Organisation for Economic Co-operation and Development (OECD), the European Union, and the International Conference on the Great Lakes Region (ICGLR). Its approach focuses on improving digitalisation in mineral governance in Uganda, improving the investment climate, strengthening regulatory frameworks, formalisation of the ASM sector, building capacity for both public and private actors, and supporting value addition through mineral processing. These measures aim to foster a professional, transparent, and globally competitive industry that benefits local communities while safeguarding the environment.

Collaboration with national institutions including the Departments of Geological Survey and Mines, the Uganda Investment Authority, the Uganda Chamber of Energy and Minerals, and the Uganda Association of Artisanal and Small-Scale Miners ensures strong local ownership.

Through this combination of legal reforms, institutional capacity development, and technological innovation, the SDMU project seeks to unlock Uganda's mineral potential in ways that promote environmental stewardship, social inclusion, and equitable economic growth. Although the project concludes in 2027, its impact is intended to endure well beyond its lifespan, contributing to a mining sector that is both sustainable and globally competitive.

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Dr. Frank Mugenyi

Executive Director - Minerals Africa
Development Institution

Beyond Ambition: Making Uganda's Minerals Value Addition Work – From Raw Exports to Regional Hub

Uganda's mineral value addition journey is often described as one of Africa's most ambitious economic transformation agendas. The country's leaders have long envisioned a shift away from exporting raw ores toward processing and manufacturing that could position Uganda as a regional hub for mineral industrialization. Yet despite significant progress in some subsectors—notably gold refining—structural and policy barriers continue to limit the broader sector's contribution to the economy. In 2023, Uganda's gold exports reached an impressive \$2.3 billion, yet overall non-tax revenue from the entire mineral sector was only \$1.64 million in FY2023/24, revealing a striking imbalance between potential and realized benefits.

This paradox—abundant mineral wealth but limited economic impact—captures Uganda's challenge. The country is endowed with deposits of gold, copper, cobalt, tin, tungsten, lithium, rare earth elements, and iron ore. These resources should be a foundation for industrialization, job creation, and structural transformation. Instead, the mining sector contributes only marginally to GDP and government revenue. The National Development Vision, which aims to propel Uganda toward middle-income status and eventually a \$500 billion economy by

2040, hinges on whether minerals can become a true driver of industrialization rather than an underperforming asset.

The government has shown strong policy intent. A 2011 presidential directive banned the export of unprocessed minerals, and the Mining and Minerals Act of 2022 laid down a framework for regulation and investment. However, as Uganda's neighbors such as Tanzania advance in mineral processing, Uganda still struggles with implementation gaps that undermine these ambitions.

One sector that demonstrates what is possible when ambition aligns with investment is gold refining. Uganda has emerged as a regional powerhouse, with six major refineries producing gold of up to 99.99% purity. Thaba Investments, formerly known as African Gold Refinery, was a pioneer, established in 2014 with capacity to process 600 kilograms of high-finished kilo-bars per day. More recently, the \$250 million Wagagai Gold Mining Project in Busia District has transformed the sector by integrating the full value chain. With capacity to process 5,000 tons of ore daily and produce 1.2 metric tons of gold annually at 99.9% purity, Wagagai alone represents a 286-fold increase over Uganda's previous production levels of just 0.0042 tons in 2023.

Table: Uganda's Gold Refining Capacity and Economic Impact

Metric	2015 Level	2023 Level	Growth	Key Projects
Number of Refineries	1	6	100%	Theba Investments, Wagagai, Fargo Commodities Trading Uganda Ltd, Feldstein Trading Limited, Euro Gold Refinery
Export Value	\$201 million	\$2.3 billion	1044%	Mainly refined gold
Production Capacity	Limited artisanal	40 tons annually	N/A	Wagagai (1.2 tons annually)
Employment	Hundreds	5,000+	Significant	Wagagai (2,000+ direct jobs)
Government Revenue	Minimal	\$10 million (projected)	Substantial	Taxes, royalties, exports

Gold's success, however, contrasts with other minerals. In battery manufacturing, Uganda has both legacy and emerging players. Uganda Batteries Limited, founded in 1967, produces lead-acid batteries for vehicles and solar systems, while Gold Star Battery specializes in VRLA batteries. A more recent entrant, Soleil Power, is pioneering lithium iron phosphate (LiFePO₄) batteries for e-mobility and stationary storage. These initiatives highlight the potential for energy storage manufacturing, but the sector depends heavily on imported inputs—despite Uganda's deposits of lead, cobalt, and graphite. Until domestic supply chains are developed, Uganda risks missing the opportunity to integrate its mineral endowment into this fast-growing global market.

The steel sector offers another paradox. Tembo Steels, one of Africa's most integrated and diversified steel plants, has the capacity to produce nearly 1.8 million tons of primary and secondary products annually. It is the first in Africa to manufacture 4.5mm wire rods directly from liquid steel, and it has reduced carbon emissions in primary steelmaking by 70% through green technologies. Yet despite these advances, Tembo operates at only 10–15% capacity. The reasons are structural: cheap imports undercut local production, while high electricity tariffs drive up costs. Government policies meant to promote value addition often backfire, with tariff structures that inadvertently favor imports over local manufacturing. President Museveni himself admitted that the sector has not received the necessary support and promised higher import taxes on steel in the 2025/26 budget.

Alongside these successes and setbacks, Uganda is pursuing strategic projects such as the redevelopment of Kilembe Mines, which holds an estimated 4 million metric tons of ore grading 1.98% copper and 0.17% cobalt. A consortium led by Sarrai Group Limited is tasked with reviving production, with potential to supply critical minerals for the global clean energy transition. The establishment of the Uganda National Mining Company (UNMC) under the 2022 Act further reflects government intent to secure value for the state. However, global experience shows that

national mining companies often underperform when tasked with direct operations, due to high capital costs, political interference, and inefficiency. For UNMC, a focused mandate on addressing market failures—such as generating geological data, supporting artisanal miners, and enabling infrastructure—would likely be more effective than attempting to dominate operations.

What holds Uganda back is less a shortage of ambition than systemic barriers. The regulatory environment is cumbersome, artisanal miners remain largely informal, financing costs are prohibitive, and infrastructure gaps—from energy to transport—inflate production costs. Even where advanced facilities exist, like the Woodcross tin refinery, they often operate below capacity due to shortages of reliable raw materials and fragmented supply chains.

If Uganda is to become a true regional processing hub, integrated solutions are required. Fiscal policies must be harmonized to align with value addition objectives, contradictory tariff regimes eliminated, and energy pricing tailored to industrial users. Infrastructure development—particularly dedicated processing zones, reliable power, and better transport networks—must be accelerated. At the same time, Uganda should leverage regional integration, harmonizing East African Community trade rules and seizing opportunities presented by the African Continental Free Trade Area to access a market of 1.4 billion consumers.

Uganda has already proven its potential in gold refining, where exports leapt more than tenfold in a decade. With coherent policies, stronger institutional capacity, and targeted investments, the same success can be replicated in steel, batteries, copper, and cobalt. The task now is to move from ambition to execution, ensuring that Uganda's mineral wealth drives broad-based prosperity. The path is difficult, but with determined leadership and practical reforms, Uganda can indeed transform itself from a raw mineral exporter into East Africa's mineral processing hub.



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Volcanic Value: Uganda's Opportunity to Reimagine Cement.

By Dr. Apollo Buregyeya | Makerere University

Uganda is facing a choice. As global pressure mounts to decarbonize the built environment, the path offered by some international experts is LC3 cement, limestone calcined clay cement, seen by organizations like the Global Cement and Concrete Association (GCCA) as a practical low-carbon innovation for developing economies. But for Uganda, where molten fire has long shaped the earth, there may be a more fitting path, one grounded in volcanic pozzolans that are already baked by nature rather than by kilns burning clay.

Why LC3 Doesn't Fit Uganda's Geology or Economy.

LC3 demands specific prerequisites: kaolinite-rich clay, high-temperature calcination at 700 to 850°C, and centralized blending infrastructure. These requirements rarely align with Uganda's reality. Clay suitable for LC3 often lies beneath wetlands and ecologically sensitive land, making extraction both environmentally risky and socially contentious. The energy demands for large calcination plants are steep, especially in a country where grid stability is inconsistent and fuel costs are rising. Add to this centralized processing with long supply chains, and LC3's promise begins to resemble imported dependency more than sustainable innovation.

The Volcanic Alternative: LPGC and Natural Pozzolans.

Uganda's volcanic belts, particularly in the Rift's eastern and western arms, are rich in pozzolanic materials such as scoria, tuff, and pumice, which have already undergone thermal alteration in nature. These volcanic pozzolans only require grinding and blending. The emerging LPGC binder (lime, pozzolan, gypsum, clinker) uses these local materials and small amounts of clinker to deliver strengths between 5 and 25 MPa, sufficient for homes, schools, clinics, and other low-rise, non-engineered buildings.

More than 80 percent of cement sold in Uganda already falls under the CEM IV category as defined by EN 197-1, allowing for up to 55 percent clinker substitution. That shows the appetite and market for lower-clinker cement. LPGC and similar blends present the possibility of pushing the boundary further, using what is already underfoot.

Lost Opportunities: What Inaction Costs.

Failing to leverage this volcanic advantage means Uganda misses out on jobs at the district level, people who could grind, blend, test, and produce binder locally. It means higher building costs, reliance on imported clinker and technology, long transport distances, and environmental trade-offs from clay extraction in wetlands. It also cedes Uganda's innovation to others, keeping the country dependent on imported patents and foreign-equipped infrastructure.

What Must Change Now

- 1. Standards and procurement** must evolve to recognize alternative binders like LPGC. Testing and certification should be accessible beyond Kampala, reflecting local reality such as manual mixing, ambient humidity, and shorter curing.
- 2. Regional labs** and blending centres should be developed. Strategic investment in geological mapping to better locate and quantify volcanic deposits will reduce risk for investors and SMEs alike.
- 3. Financial instruments** must support SMEs and innovators, through grants, credit guarantees, or subsidized equipment. Without this, viable local alternatives will remain niche.
- 4. Skills development** is essential. Technical training for local producers, regulators, engineers, and procurement officers must keep pace with material innovation.

The Larger Picture.

Uganda's cement transition is not only about reducing carbon. It is about creating local value from underutilized resources. It is about expanding economic opportunity, especially in rural areas where jobs and enterprise growth are urgently needed. It is about equity, ensuring that affordable, climate-resilient housing is accessible to all, not just to those near industrial centers. And above all, it is about national sovereignty, the ability to define a development path grounded in local materials, local skills, and local priorities.

Uganda has the geology, the market, and the knowledge. What it needs now is the political will to make volcanic pozzolans the foundation of a new, inclusive cement economy.



04

THE COMPLICIT VICTIM: PROSECUTING SCAMMED GOLD BUYERS IS THE KEY TO CURBING UGANDA'S ILLICIT TRADE.

Mr. Asiimwe Kenneth

Chief Executive Officer - UGAASM

To dismantle the lucrative ecosystem of gold fraud, the law must target not just the predator, but the willing prey.

17th September 2025: KAMPALA, Uganda

This story has become a tragic and predictable refrain in Uganda's and the Great Lakes region mineral sector. An international buyer, lured by the promise of below-market-rate gold and swift, off-the-books deals, arrives in Kampala with a suitcase full of cash. They bypass licensed brokers, ignore due diligence, and sidestep official export channels to secure a deal in a shadowy hotel room or warehouse. The result is almost always the same: the gold is fake, the "sellers" vanish, and the buyer is left millions of dollars poorer, pleading for help from authorities whose advice they deliberately ignored or avoided all together.

Uganda and the wider Great Lakes region are grappling with an epidemic of gold scams that drain vast sums of money from the global economy and tarnish the reputation of legitimate mineral trade. While public sympathy often lies with the "victim," a deeper examination reveals a more complex truth: these buyers are not merely victims;

they are active and willing participants in an illegal scheme. The prevailing legal response—charging only the scammer with obtaining money by false pretense—treats a symptom while the disease rages on. It is time for a paradigm shift: to effectively deter this vice, the law must prosecute the scammed for aiding and abetting illegal mineral trade. Mineral markets are a very welcome action, but ...

The Anatomy of a Willing Participant

The narrative of the innocent foreigner duped by sophisticated local criminals is largely a myth. In almost every case, the scammed buyer receives prior information on the legal process. They are aware of the requirement to deal with licensed exporters, to assay gold at government-approved facilities, to obtain export permits from the Directorate of Geological Survey and Mines (DGSM), and to process payments through formal banking channels.

Their decision to bypass this "due process" is a calculated risk. It is driven by a desire to avoid taxes, bypass export duties, or acquire gold without the necessary paperwork regarding its source—a practice that often implicates conflict minerals. They

knowingly engage in an activity that is illegal under Uganda's Mining Act, believing the potential profit outweighs the risk. In doing so, they are not victims of a simple theft; they are investors in an illicit market whose investment happened to go sour.

The Failure of the Current Deterrence Model

The current legal framework creates a perverse incentive structure. When a buyer is scammed, they report the crime to the police. The police, if successful, arrest the scammer for obtaining money by false pretense. The buyer, meanwhile, is treated as a witness, not a co-conspirator.

This approach has two critical flaws:

1. It Fosters a Culture of Impunity for Buyers: It signals that while there is a risk of being scammed, there is no legal risk for attempting to engage in an illegal trade. A buyer can repeatedly attempt to break the law, and only face consequences if the deal is fraudulent, not if it is successful. This emboldens illicit demand.

2. It is Logistically Futile: By the time the scam is reported, the money is long gone, often untraceable, and dispersed among complex networks. Recovering funds is nearly impossible, and the cycle simply repeats with a different set of actors.

Prosecuting for Aiding and Abetting:

The principle of "aiding and abetting" is well-established in international law. It holds that an individual who knowingly facilitates or enables a crime is themselves criminally liable.

Applying this principle to gold scams would be a game-changer. If a buyer willfully transfers a large sum of money for an illegal mineral transaction outside of regulated channels, they are directly aiding and abetting the crime of illicit trading. Their actions provide the financial fuel for the entire criminal enterprise.

Charging these buyers would create a powerful and necessary deterrent. The calculation for a prospective buyer would shift dramatically. Instead of weighing only the risk of being scammed, they would now have to weigh the certainty of facing

serious legal repercussions—fines, asset forfeiture, and even imprisonment—simply for attempting the illegal deal, regardless of its outcome.

Implementing a Balanced and Just Approach

This is not a call to abandon the prosecution of scammers. They are criminals who must face the full force of the law. Rather, it is an argument for a symmetrical application of justice.

A robust legal strategy would involve:

- Investigating the Transaction: Authorities should investigate not just the fraud, but the nature of the intended transaction itself.
- Laying Concurrent Charges: Scammers should be charged with fraud, while willing buyers are charged with violations of the Mining Act for attempting to engage in unlicensed trade and for aiding and abetting illicit activity.
- Plea Agreements: This framework could allow for plea deals where buyers provide evidence against criminal networks in exchange for reduced sentences, thereby strengthening cases against kingpins.

Protecting a Nation's Resources

Uganda's mineral wealth is a national asset that must be managed transparently and legally. The current scourge of scams is a direct byproduct of an illicit market that thrives on complicity from both supply and demand sides.

By refusing to distinguish between the scammer and the scammed when both are knee-deep in illegality, the justice system can finally break this cycle. Prosecuting the complicit buyer is not about punishing victims; it is about recognizing that the most effective way to kill a black market is to criminalize its customers. It is a tough but necessary step to protect the integrity of Uganda's economy, ensure responsible sourcing, and restore legitimacy to a critical sector. The message must be clear: if you attempt to trade illegally, you are not a victim—you are an accomplice.



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OROM LOOKS TO FIRST PRODUCTION IN 2026

Consolidated African Resources Ltd is rapidly advancing the Orom Cross Graphite project towards first production in 2026, with nearly all engineering milestones completed and offtake agreements in place.



Over the past 12 months the project team along with local and international engineering experts have finalised Definitive Feasibility Study elements including the mine facilities, processing plant, and infrastructure designs.

In collaboration with the Ministry of Energy and the Ministry of Works and Transport, the company is close to finalising the last-mile power and road connections to support the project site as well as the local community.

In addition this year the team completed an extended stage 7 drilling campaign to further enhance the resource definition. Executive Chairman Cameron Pearce commented:

Executive Chairman Cameron Pearce commented:

"This latest drilling campaign has delivered excellent results against all the objectives. We have always believed in the size, scale and high quality of the Orom-Cross graphite deposit, but this drill program has gone a long way to verifying that we have all these key attributes to establishing a tier one graphite asset.

We achieved all our objectives – gathering essential geotechnical data to complete mine design, infill drilling to substantially upgrade the existing resource, and exploration to extend an existing deposit and thereafter to locate and discover a brand-new deposit. Importantly, the six deeper holes drilled at the end of the program confirmed graphite mineralisation well beyond 100 metres depth – three times deeper than before – with ore

zones still open at depth.

"These results continue to strengthen the case for Orom-Cross as a large, long-life and multi-cycle asset with exceptional product quality. Our focus now turns to integrating this into the DFS to demonstrate the full commercial value of the project within the global graphite supply chain."

The company continues to receive strong financial support from the United States Development Finance Corporation (DFC) with \$4.75m out of a total of \$5m disbursed as a technical assistance grant.

The European Union has also expressed its support for the project with an agreement to provide substantial community development assistance, a move that has been welcomed by the local government and the district constituents.

Country Manager Nabil Alam commented:

"We are extremely proud of the developments at Orom Cross over the past year, with many challenges resolved and the path to production clearer than ever. Particularly of note are the partnerships we have been able to build. These include international finance institutions such as the African Finance Corporation and the United States DFC, The European Union, The United Kingdom, and International Development Agencies such as Enabel. These partnerships represent the growing presence of the Orom Cross Graphite project and the confidence held therein. We look forward to 2026 which I am sure will be the beginning of a new era for the project and the mining sector in Uganda."

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On Your Side

I&M Bank Powers Growth Through Strategic Partnership with the Uganda Chamber of Energy and Minerals



I&M Bank Uganda is proud to announce a strategic partnership with the Uganda Chamber of Energy and Minerals (UCEM), reinforcing its commitment to powering growth and sustainability in Uganda's expanding natural resources sector.

As the country unlocks opportunities in oil, petroleum, minerals, and energy, we recognize that strong partnerships between financial institutions and industry players are vital to driving inclusive and responsible development. This collaboration marks a significant milestone in aligning I&M Bank's financial expertise with UCEM's mission of fostering investment, innovation, and global competitiveness across the sector.

Financing the Future of Energy and Minerals

The energy and extractives industries require substantial capital investment. Through this partnership, I&M Bank is well positioned to deliver tailored financial solutions from project financing and asset leasing to trade finance and treasury solutions that enable UCEM members to expand operations, attract investment, and scale sustainably.

Supporting Local Content and SMEs

Uganda's natural resource story is not only about large-scale projects but also about the thousands of small and medium enterprises (SMEs) that power the value chain. I&M Bank is committed to empowering these businesses through accessible financing, advisory services, and capacity-building initiatives. By enabling SMEs to thrive, we are promoting inclusive growth and strengthening the resilience of local industries.

Driving Sustainable Impact

Both I&M Bank and UCEM share a strong commitment to responsible resource development. Our initiatives in green financing, renewable energy support, and community investments demonstrate our dedication to building an economy that delivers long-term value while protecting the environment and uplifting communities.

Thought Leadership and Knowledge Sharing

By actively participating in UCEM's conferences, policy dialogues, and sector reports, I&M Bank brings valuable insights on innovative financing and risk management. This ensures we are not only a financial partner but also a thought leader shaping Uganda's resource future.

A Shared Vision for Growth

This partnership is rooted in a shared vision: to harness Uganda's natural resources responsibly, inclusively, and for the benefit of the nation.



Our partnership with UCEM is more than a financial commitment, it is about unlocking potential, fostering sustainable progress, and shaping Uganda's growth story for generations to come," said **Robin Bairstow, CEO, I&M Bank(Uganda) Limited**



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WAGAGAI GOLD MINE

A BEACON OF SUSTAINABLE MINING:

THE FUTURE OF THE MINING INDUSTRY IN UGANDA



Wagagai Mining (U) Ltd. is a wholly owned subsidiary of Liaoning Hongda Enterprises Group headquartered in China. As a full suit mining company, its Busia Gold Mine project has progressed through phases including licensing procedures, geological exploration, camp construction, underground tunneling, as well as mineral extraction, transportation, hoisting, mineral processing, and refinery systems to achieve the production of 99.99% maximum-purity gold bullions.



Wagagai Mining (U) Ltd. was duly issued with a Mining Lease in 2019, and now operates the first of its kind in the East Africa Region, state-of-the-art underground Gold Mine recently commissioned by His Excellency the President of the Republic of Uganda on the 16th of August 2025. This concession covers a 9.2 Square mile area in the Eastern Border District of Busia.

In 2019, following the Liaoning Hongda Enterprises Group's response to the Belt and Road Initiative of China, Mr. Tan Jiugang, Chairman of the Board along with Mr. Tan Jiu Chang, the General Manager, led a delegation of senior executives and engineers to Africa for an inspection tour, subsequently deciding to invest in and develop mineral resources in the Republic of Uganda, Mali, Zimbabwe, Democratic Republic of Congo and Gabon. We are especially proud and honored to say we chose Uganda as the headquarters of our Africa investments and operations and in addition to constructing and developing our mine in Busia, constructed and established our Africa corporate office headquarters here in Namanve Industrial Park due to the peace and stability of the nation, predicable legal and regulatory framework, and investment-friendly climate.

Over the past six years, Hongda Group has invested a cumulative total of over US\$150 million, dispatched over 200 senior management and specialized technical personnel, procured more than 1,000 sets of advanced mining machinery and equipment, and introduced first-class mining technology and production processes to Uganda. We plan further investment of about US\$50 million by 2027 to extract ores at depths of 300 to 600 meters underground, and another US\$50 million by 2035 to develop ores at depths of 600 to 1,000 meters underground. By then Wagagai Mining Company is expected to produce about 1.2 tons of Gold Metal annually, generating foreign exchange earnings of roughly US\$100 million per year.



As we continue to navigate the complexities of the mining sector, it's clear that sustainability is no longer just a buzzword it's a business imperative. At our company, we're committed to responsible and sustainable mining practices that not only benefit our shareholders but also the communities we operate in in compliance with international ESG standards.

Our Vision

Our vision is to be a leader in sustainable mining, prioritizing the health and safety of our employees, minimizing our environmental footprint, and contributing to the economic development of the regions we serve. We believe that transparency, accountability, and collaboration are essential in achieving this vision.

Environment Protection

Wagagai Mining (U) Ltd. is well positioned to achieve full compliance with NEMA's environmental framework by integrating sustainability principles across all aspects of its operations. This includes undertaking comprehensive Environmental Impact Assessments, enforcing stringent pollution control measures, restoring mined land in line with rehabilitation commitments, and fostering constructive engagement with local communities. By aligning operational practices with both national regulatory requirements and internationally recognized standards, we will not only safeguard the surrounding natural environment but also enhance our corporate social responsibility, strengthen long-term economic resilience, and contribute meaningfully to Uganda's sustainable development agenda. Through this disciplined and forward-looking approach, Wagagai Mining can establish itself as a benchmark for responsible mining, ensuring that natural resources are managed prudently for the benefit of current stakeholders and future generations alike.

Community Engagement

At Wagagai, we are proud of our commitment to community engagement and development. Through various initiatives, we have supported local businesses that supply us with inputs, enhanced access to education as we have set up scholarships and are already supporting over 200 students in both primary and secondary schools in Busia, as well as facilitated healthcare programs. We have constructed and continue to support religious institutions, constructed and maintained rural roads, bridges and drainage channels, and most recently partnered with National Water and sewerage Corporation to provide the four Villages of Alupe, Amagoro, Agoriatta and Akipenette and the greater Parish of Mawero with clean and safe piped water ultimately contributing to the well-being of the communities we operate in.



Challenges and Opportunities

The mining industry in Uganda faces numerous challenges, from fluctuating commodity prices, unavailability of stable, reliable and affordable energy, to increasing regulatory requirements. However, we also see significant opportunities for growth and innovation. By investing in new technologies and processes, we're able to improve efficiency, significantly improve recovery rates, reduce costs, and enhance our sustainable performance.

The Role of the Uganda Chamber of Energy and Minerals. Private Sector led organizations like the Uganda Chamber of Energy and Minerals play a vital role in promoting the interests of the mining industry and advocating for policies that support sustainable development. We appreciate the chamber's efforts in fostering collaboration and knowledge-sharing among industry stakeholders.

We are proudly associated with the Uganda Chamber of Energy and Minerals as Gold Sponsors of this year's 14th Mineral Wealth Conference and look forward to continued partnerships and collaboration with the chamber to further develop the mining industry to spur economic growth while achieving shareholder/investor expectations and goals.

Looking Ahead

As we look to the future, we're excited about the prospects for the mining industry in Uganda. With the increasing demand for minerals and metals, we're confident that our company will continue to thrive. We are especially proud and pledge our commitment to being the Apex drivers of large-scale Mining investment in Uganda, deploying best-in-class modern technologies and mining equipment and skills, whilst embedding tech and skills transfer to Ugandan citizens. We will remain committed to sustainable practices, innovation, and community engagement, ensuring that our operations benefit both our business and the communities we operate in.

We take this opportunity to sound a clarion call to large scale mining companies and investors both foreign and domestic to follow our lead, take the decision to invest in the mineral sector in Uganda, the time is now, the government of Uganda has made every endeavor to make the investment climate conducive for which we as Wagagai can testify and we are grateful.

Thank you.

By Tan Jiuchang

General Manager-Wagagai Mining (U) Ltd.



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Strengthening Uganda's Management of Uncertain Oil Revenues

Authors: Paul Bagabo, Thomas Scurfield

Extract on the Petroleum Revenue Investment Reserve (PRIR)

Uganda stands at a critical juncture, with first oil from the Lake Albert project imminent. Oil production could significantly boost funding for the Tenfold growth strategy, though revenue projections are highly uncertain. The Public Finance Management Act (PFMA) 2015 and accompanying Charter for Fiscal Responsibility (CFR) provide a relatively solid framework for effective management of these revenues. However, the government could strengthen the framework further to improve Uganda's chances of fully benefiting from its oil.

NRGI has set out recommendations on how to finetune the framework in a report published in July 2025. Several recommendations relate to the Petroleum Revenue Investment Reserve (PRIR).

Key recommendations on the PRIR

- Take a consultative multi-stakeholder approach on calibrating the next CFR.
- Use PRIR funds to pay down high-interest debt.
- Use at least some of any remaining PRIR funds to build a stabilization buffer, but stipulate in the PFMA that it can only be used for significant shocks.
- Clearly articulate the PRIR objective(s) in the PFMA, and align the rest of the act with this objective.
- Include rules in the PFMA on what can constitute a qualifying instrument for PRIR investments, and stipulate that investments must be in foreign non-oil assets only.

A consultative approach to the next CFR

Uganda's considerable development needs mean that using oil revenues to scale up public investment in physical and human capital should bring high returns for both current and future generations. However, when determining spending levels, the government must rigorously assess these returns relative to other uses of the money.

It must also account for its capacity to spend effectively, and for the economy's absorptive capacity. The government has presumably made this assessment when setting the current CFR rule of spending oil revenues up to the equivalent of 0.8 percent of the previous year's non-oil GDP. A consultative multi-stakeholder approach on calibrating the next CFR in terms of the amount of oil revenue to spend, deposit in the PRIR and allocate to "approved" UNOC investments is advisable to ensure public support for the government's approach.

Paying down high-interest debt

The PFMA does not mention using PRIR funds to pay down debt. However, after scaling up spending on "infrastructure and development projects," paying down debt with high interest rates could be the second most beneficial use of oil revenues.

Uganda's uncertain revenue outlook makes estimating the potential size of its PRIR deposits particularly challenging. However, they are likely to be relatively modest and could therefore generate relatively modest returns. Given the government has been borrowing increasing amounts of high-interest debt, it may find itself making less return on its savings than it is paying in interest on some of its debt.

Paying down high-interest debt could therefore be more beneficial for future generations than saving in a fund. It could also help protect the budget against oil revenue volatility and other shocks because it would give the government more space for additional borrowing during challenging periods.

Insuring against shocks

After scaling up spending and paying down high-interest debt, the government could consider using at least some of any oil revenue remaining to build up a stabilization buffer. The energy transition is likely to increase oil revenue volatility. The government can reduce but not eliminate the impact of this volatility on the budget by using the non-oil primary balance as the fiscal anchor.

A stabilization buffer could help the government fill any oil revenue shortfall. It could also be used to insure against other shocks—e.g., to avoid taking on debt at times of high interest rates. However, the PFMA should specify that the buffer can only be used for significant shocks, and should provide a definition of such shocks.

Clarifying the saving objective(s)

Uganda's revenue management policy, the PFMA and the CFR are currently inconsistent on whether PRIR funds will be used for stabilization, future generations, or both. This will be a key determinant of the optimal instruments for investing PRIR funds, and when savings and investment returns can be accessed and withdrawn. The government could therefore consider revising the PFMA so that it clearly articulates the PRIR objective, and then aligning the rest of the act with this objective.

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Investment rules

Risky instruments can generate high returns, but governments should take a relatively conservative approach with public funds. The PFMA could set out rules defining qualifying instruments—e.g., requiring that they: have a minimum credit rating; are publicly traded; are in an internationally convertible currency; and are not a derivative.

The PFMA could also specify that the PRIR be invested in foreign assets only. Investing funds domestically, in physical or financial assets, can be appealing in countries with limited fiscal space and potential for high returns. However, Uganda can already make domestic investments through the budget and the Uganda Development Bank (UDB).

Making domestic investments through the PRIR could undermine fiscal and macroeconomic stability, resulting in disappointing returns for several reasons. First, by tying PRIR returns to the performance of the domestic economy, such investment limits the PRIR's capacity to act as insurance against domestic economic shocks. Second, because this investment would not be made through the budget, the government would find it more difficult to ensure public investment is consistent with the absorptive capacity of the economy. Third, because such an investment would bypass the budget process, parliament would have limited oversight to ensure that the funds are being used in the interests of Uganda. Fourth, different expertise, human resources and investment guidelines are needed for domestic investments. Building the required capacity would be an unnecessary cost, given that UDB already has this capacity.

If more public investment in the Ugandan economy would be beneficial and not overheat the economy, the government could adjust the fiscal rule to allow more Petroleum Fund money to go to the budget and UDB rather than to the PRIR.

The PFMA or regulations could also specify that the PRIR not be invested in assets linked to fossil fuels, given profitability risks and the importance of diversifying future income sources.

Contact us at: pbagabo@resourcegovernance.org

Mantra launches Uranium Pilot Processing Plant in Tanzania

By Maliki Muunguja

In the quiet hills of Namtumbo District, deep in Tanzania's southern highlands, something extraordinary is taking shape. Once known for its rolling landscapes and remote villages, this corner of Ruvuma Region is now at the heart of a transformation, one powered by a rare mineral buried beneath its soil: uranium.

Presiding over the launch, the President of the United Republic of Tanzania, Dr Samia Suluhu Hassan, delivered a strong message: "We want Tanzanians to see the direct benefits of this project. It is our duty to ensure the jobs created benefit the local people, especially those around the project area, and that the revenues improve social services."

The project, owned by Mantra Tanzania Limited, is valued at approximately USD 1.2 billion. It is expected to create over 4,500 jobs, while the government will benefit over hundreds of million USD through taxes, royalties, dividends, and its 20% ownership stake.

Beyond the figures, this is a project of hope, transformation, and prestige for a nation that has long been aspiring to play a major role in the global clean energy sector. Tanzania is poised to become one of the top ten global producers of uranium, contributing approximately 20% of Africa's uranium and around 4% of the world's total production.

With an annual output of seven million pounds, the country is positioning itself as a key player in the global uranium market, significantly impacting both regional and international energy landscapes. Uranium is a rare global resource used in nuclear energy generation, medical treatment, soil and water treatment and scientific researches.

According to President Samia, this project aligns perfectly with Tanzania's Development Vision 2050, which aims to make the country an industrialized, self-reliant, upper-middle-income economy.

In her speech, President Samia stressed that health and environmental safety, along with adherence to international standards, must be prioritized throughout the implementation of

pro-



The President of the United Republic of Tanzania, Dr Samia Suluhu Hassan, and the President of Uranium One, Mr Pavel Andreevich Larionov, unveil a plaque to mark the inauguration of Mantra Tanzania Limited's Uranium Processing Pilot Plant located in Namtumbo District, Ruvuma Region, on July 30, 2025.

ject. "This pilot plant is part of our broader strategy to ensure these minerals are used for the benefit of all Tanzanians while maintaining health safety, environmental protection, and compliance with global standards," she said.

This emphasis is especially crucial given the common concerns about health and environmental risks associated with uranium mining. However, Tanzania has taken proactive measures to ensure that all activities are conducted with the highest levels of caution and accountability. Mr Oleg Snitko, the Managing Director of Mantra Tanzania Limited, described the launch as the beginning of a new chapter of cooperation between Tanzania and Russia.

He explained that the first phase of the project includes the construction of a large facility capable of processing up to 3,000 tonnes of uranium ore. The next phase will be the construction of a full-scale plant by 2026, with commercial production expected to begin in 2029.

Beyond

machinery and minerals, Mr Snitko highlighted that over 4,000 jobs are expected to be created for Namtumbo residents, with over 21,000 households benefiting from opportunities along the mining and energy value chain.

The infrastructure in Ruvuma Region is also expected to improve significantly, and Mantra has been actively involved in enhancing social services, including education, health, environment, and youth and women empowerment.

"For us, this is more than just a uranium project—it's about giving back to the community around the project site, which is a core value of our operations," the MD said. Majani Moremi, the Sustainability Manager at Mantra Tanzania Limited, provided a technical explanation of how uranium is extracted and processed.

Unlike other minerals found in rock, uranium from the Mkuju River is embedded in the soil. The soil is taken to a specialized processing plant, where it is cleaned and refined until a final product resembling a loaf of bread is formed, he explained. Moremi said the product is packed in 200-litre barrels and exported.

He also emphasized that safety is a top



From left: The President of the United Republic of Tanzania, Dr Samia Suluhu Hassan; the Managing Director of Mantra Tanzania Limited, Oleg Snitko; the President of Uranium One, Pavel Andreevich Larionov; the Ambassador of the Russian Federation, Andrey Avetisyan in a group photo after the inauguration of Mantra Tanzania Limited's Uranium Processing Pilot Plant located in Namtumbo District, Ruvuma Region on July 30, 2025.

priority, with close cooperation from institutions like the Atomic Energy Commission to ensure full compliance with both national and international obligations related to radiation safety and environmental protection. The history of uranium in Tanzania dates back to the 1970s, following radiometric surveys.

Later, Mantra invested heavily in detailed studies of the radiation patterns around the Mkuju River. So far, over 4,600 ores have been harrowed, with depths stretching of over 300,000 feet deep, signaling a significant and unique presence of this resource. At another moment during the event, the Ruvuma Regional Commissioner, Col Ahmed

Abbas Ahmed, praised the strategic investment by Mantra, saying it would boost the region's economy and drive both economic and social development.

"We thank our partners at Mantra for recognizing our region, and we will ensure our people make the most of the job opportunities to achieve economic and social progress," said Col Ahmed in the presence of President Samia.

At a time when the world is shifting toward clean energy, Tanzania is positioning itself as a key player. This uranium processing project is not only opening doors for economic growth, but also it demonstrates the nation's maturity in managing major international projects with transparency, safety, and community welfare.

For the residents of Namtumbo, this is more than a project—it is a new source of hope, a new sense of pride, and proof that even in the most remote corners of the map, Tanzania is writing global history.



A view of Mantra Tanzania Limited's Uranium Processing Pilot Plant located in Namtumbo District, Ruvuma Region.

Number of jobs to be created from the Mkuju River Project

4500+



05

INNOVATING MINERAL VALUE CHAINS:

A Vermiculite-Based Fireball for Domestic and Industrial Fire Suppression

Uganda is endowed with a diverse array of mineral resources, which include gold, copper, iron ore, rare earth elements, and most importantly, vermiculite, yet much of these remain underexploited due to a myriad of factors like limited exploration and processing infrastructure shortage. Vermiculite, a versatile industrial mineral sourced notably from the Namekera mine in Eastern Uganda, ranks among the highest quality deposits globally according to the US Geological Survey publications. Recently, Uganda's mining sector contributed only a modest share to GDP, which is about 0.5 % for minerals broadly, but with efforts and boosted potential, it has managed to grow to over 2 % in the most recent term. With national ambitions sparked by the president, H.E. Yoweri K Museveni, focusing on sustainable industrialization and value addition, the moment is ripe to elevate vermiculite from raw export to local utilization and manufactured innovation.

From my own experience interacting with people about vermiculite, I noticed that a very large number of the people I did interact with did not seem to even remotely know what vermiculite

was, apart from the people who were working with it. Vermiculite is a naturally occurring, Hydrated Magnesium Aluminium Silicate ($Al_2 Mg_2 O_{15} Si_5 XH_{20}$) that resembles mica and expands dramatically when exposed to high heat, a process known as exfoliation, resulting in a lightweight, inert, and fire-resistant material. In agriculture and gardening, vermiculite excels as a growth medium that improves aeration, retains moisture, buffers nutrient release, and has been shown in Uganda to double or even quadruple yields for crops such as bananas, maize, and rice.

Its industrial versatility is equally compelling. Vermiculite enhances fire protection in boards, plasters, coatings, and structural steel, thanks to its insulation, non-combustibility, and moisture retention qualities that slow heat transfer during fires. It's also used in loose-fill insulation, lightweight construction materials, packaging, brake linings, and refractory mixes. The Namekera deposit in eastern Uganda stands out globally for both its scale and quality, with reserves estimated at 5 to 6 million tonnes, according to sources, positioning it among the world's premier vermiculite assets.

To address both safety and value-addition challenges, I, along with direct collaboration from Namekara Mining Co., Ltd., and Ecolite Minerals Uganda Limited, have conducted research into the "fireball" concept, which innovatively leverages Uganda's high-quality vermiculite in a compact, self-activating firesuppression device. At its core, the fireball comprises exfoliated vermiculite bound with eco-safe fireretardant compounds. Upon exposure to flames, a thermal fuse or impact fuse is triggered to release a blast of insulating, oxygen-displacing material that smothers the fire. The inert, non-toxic nature of vermiculite ensures both environmental safety and user confidence.

This approach builds on the principle behind commercially available extinguishing balls, most commonly the Elide Fire brand, which activate upon contact with flames, dispersing powder across an area of 8–10 m² within 3–10 seconds to extinguish Class A, B, C, and F fires, often triggering a loud alarm to alert occupants as well. However, these products, though being effective, rely on imported materials and components, and in some cases have raised safety concerns in other markets. By contrast, the vermiculite-based fireball is to be locally manufactured, drastically reducing costs, creating jobs, and fostering an emergent micro-industry rooted in the beneficiation of Uganda's mineral endowment.

Putting the economic justification of this concept into writing, Uganda's Namekera vermiculite deposit represents a remarkable economic opportunity. Current estimates indicate reserves ranging from 4.6 million tonnes at 19 % vermiculite content to as high as 55.5 million tonnes, placing it among the world's premier deposits in terms of both quality and scale. Moreover, some broader projections value Uganda's vermiculite reserves at around 54.9 million metric tons, equating to an estimated potential value of about US\$11.5 billion according to the proactive investors' UK publications. Currently, production stands at approximately 30,000 tonnes annually, with Black Mountain Resources actively supplying international markets across North America, Europe, and Japan.

According to the economic analysis conducted, transitioning from the full export of raw vermiculite to

the production of locally made fireballs with some percentage of the vermiculite could dramatically elevate unit value, leveraging 2019 U.S. data that shows exfoliated vermiculite averaged about US \$773 per metric ton, far exceeding the price of raw concentrate. This shift would not only boost export revenues but also catalyse job creation in processing, micro-industries, and R&D. By capturing a larger share of the value chain, Uganda could significantly advance its industrialisation agenda and diversify its economy.

My study focused on the fire safety use of vermiculite, but beyond fire suppression, vermiculite offers immense potential across multiple industries. In construction, it is already valued for producing lightweight, insulating boards, plasters, and concrete mixes that enhance fire resistance and thermal performance. Its capacity to retain water and nutrients also makes it integral to hydroponics and soil conditioning, technologies increasingly relevant for climate-resilient agriculture. Leveraging these properties could position Uganda not only as a regional leader in safety products but also as a hub for sustainable, mineral-based solutions across construction, agriculture, and industry.

Uganda's vermiculite endowment represents more than a raw material for export; it is a catalyst for innovation, industrialisation, and sustainable development. The proposed fireball device demonstrates how a simple, safety-critical product can transform a low-value mineral into a high-impact technology, boosting revenues, creating jobs, and saving lives. With broader applications in construction, agriculture, and eco-friendly composites, vermiculite beneficiation aligns with Uganda's policy goal of value addition while positioning the country as a regional leader in mineral-based innovation. Unlocking this potential requires investment, collaboration, and bold vision to reimagine minerals as the drivers of prosperity.

Benjamin Busuulwa

06

14TH MINERAL WEALTH CONFERENCE

THEME: Sustainable Mineral Development through Collaboration, Innovation, and Green Transition. Unlocking potential for a resilient Future



Uganda is endowed with a wide variety of mineral resources, ranging from gold and copper to cobalt, limestone, phosphates, and rare earth elements. These resources have the potential to drive industrialization and stimulate long-term economic growth. The mining industry has traditionally played a role in Uganda's economy, contributing 2.3% of GDP in the 2020/21 financial year. According to projections in the 2018 Minerals and Mining Policy, this share could rise to 7% by 2040. The sector also remains an important source of employment, particularly for artisanal and small-scale miners (ASM), with an estimated 200,000 Ugandans directly engaged. Yet, despite this promise, the sector faces hurdles such as weak regulation, environmental harm, and community disputes, which limit its overall contribution to sustainable development.

Uganda's legal and policy framework is designed to align mineral exploitation with sustainability goals. The Mining and Minerals Act Cap 159, together with the 2018 Minerals and Mining Policy, provides the main regulatory instruments for the sector.

One of the Act's key reforms is the introduction of different license categories covering artisanal, small-scale, medium-scale, and large-scale operations. Another significant feature is the creation of the Uganda National Mining Company (UNMC), a state-owned enterprise charged with representing the government's commercial interests in mining ventures.

The Minerals and Mining Policy, emphasizes principles of good governance and sustainability, including public participation, environmental stewardship, and transparency. It calls for measures such as environmental impact assessments, mine closure and restoration planning, and emission reductions in line with international climate standards.

Agencies such as the National Environment Management Authority (NEMA) and the National Forestry Authority (NFA) oversee compliance with these obligations. Uganda's mining strategy places strong emphasis on cooperation between stakeholders.



Government, investors, communities, and development partners are encouraged to work together to promote inclusive outcomes.

The establishment of the UNMC in 2024, under the Ministry of Energy and Mineral Development, demonstrates Uganda's effort to reduce investment risk by co-financing exploration and providing reliable geological information. International partnerships have also been instrumental like the Sustainable Management of Mineral Resources Project (2004–2011), backed by the World Bank, African Development Bank, and Uganda's government, supported skills training for over 1,000 miners and facilitated the creation of 50 ASM associations.

At the community level, legal requirements for Community Development Agreements (CDAs) ensure that local populations are engaged throughout the mining cycle from negotiations to closure. These agreements address employment, gender balance, benefit sharing, and coexistence, reinforcing the idea that mineral wealth should serve surrounding communities, not just investors.

Innovation is another pillar of Uganda's strategy for sustainable mining. For ASM, which remains a major employer, informality and safety risks remain concerns. Developing a national ASM registry using GIS and mobile platforms could provide detailed information on production, environmental impacts, and geographic distribution of mining activities, strengthening oversight and planning.

Value addition within Uganda is also gaining momentum. The 2024 commissioning of Woodcross Resources' tin refining facility marked an important step away from raw mineral exports, enabling local beneficiation and positioning Uganda more competitively in global markets. Similar initiatives, such as plans for domestic cement production using local limestone, reflect a broader agenda of integrating mining with industrial development.

Institutional innovations are also notable. The Mining Cadastre and Registry System

(MCRS) has enhanced the transparency of mineral licensing, but full digitization and geospatial integration are needed to reduce overlaps, limit corruption, and provide public access. A more advanced system would boost investor trust while giving civil society and local communities a tool to monitor sector activities. With significant deposits of critical minerals such as cobalt, lithium, and rare earths, Uganda has a strategic role in the global green transition. Growing investor interest, illustrated by licenses granted to companies like Sunbird Resources and Ionic Rare Earths, underscores the country's emerging importance. However, global demand also brings risks, including resource depletion, price swings, and environmental degradation, which require stronger safeguards and inclusive regulation.

Uganda can draw lessons from its neighbors and beyond. Kenya's Community Land Act, creates committees to manage community owned land, mirrors Uganda's reliance on CDAs. South Africa offers another model, where the Traditional Leadership and Governance Framework Act formally involves traditional leaders in land governance. The Democratic Republic of Congo's pilot program for mobile apps in cobalt mining provides a technological example of how to improve monitoring, traceability, and working conditions tools Uganda could adapt to its own ASM sector. In conclusion, Uganda's pathway toward sustainable mineral development rests on three interlinked elements: a supportive legal framework, collaborative partnerships, and the adoption of new technologies. Initiatives such as the UNMC, community development agreements, and beneficiation projects demonstrate the country's intent to build a mining industry that is economically rewarding, socially equitable, and environmentally responsible. Nonetheless, persistent challenges remain chiefly in enforcement of regulations, equitable sharing of benefits, and long-term environmental protection. As global demand for critical minerals rises, Uganda has a unique opportunity to position itself as a responsible supplier.

Zawedde Evelyn

Senior Associate, Ortus Advocates

07



UNLEASHING AFRICA'S POTENTIAL - REPLACING POVERTY WITH MINERAL WEALTH

Dr. Kanyoro Patrick is the Chairman of Kenya Chamber of Mines and an active player in Kenya's mineral ecosystem. He is a management consultant in leadership and strategy.

Africa is a blessed continent. With a population of 1.5 billion people and estimated to grow to 2.5 billion people by 2050 (Economic Commission for Africa), Africa is the pot from which the global stew is steaming. With the idea of Africa Continental Free Trade Area (AfCFTA) taking shape albeit at an underwhelming pace, the continent is at the cusp of experiencing a shift from the narrative of being the dark continent to being the most attractive place in the world. And just a thought: could Africa be the dark continent just because at least 70% of Africans lack access to electricity? According to Africa Development Bank (AfDB), 640 million Africans do not access electricity despite the continent's potential to tap into hydro, geothermal, solar and wind power sources. A well lit Africa is a well skilled, secure, healthy and commercially productive Africa!

Africa holds 30% of the world's mineral reserves: critical to renewable and low-carbon technologies including solar, electric vehicles, battery storage, green hydrogen, and geothermal. To meet the expected rise in global demand, production of lithium, graphite and cobalt will need to increase by nearly 500% by 2050. This will not be realized to any measure without Africa's resources. This revelation

should shake the leadership of the continent; the political class, academia, civil society organizations and thought leaders of all shades to a swift call to action.

While the world is having the conversation on just energy transition, Africa must be cautious not to join a choir whose master they know not! The quest for the continent should be to engage in informed conversations on how the naturally and bountifully occurring mineral ores; copper, bauxite, graphite, manganese, lithium, nickel and cobalt can be leveraged for enhanced connectivity and battery storage: not to power electric vehicles but with the priority to light homes, schools and health facilities across the continent. With the critical advantage of being home to rare earth elements (REEs), coupled by attractive wind speeds in several areas across the continent, strategic partnerships ought to be mooted to develop capacity to manufacture the magnets that turn wind turbines and electric motors in Africa.

Africa must rise and take a continental view on the issue of how the mineral resources can positively impact her ability to light and power the continent. It is obvious naivety to overlook the fact that the continent is home to 54 sovereign states, each with



its political, social, economic, environmental and in some instances spiritual aspirations. This stark reality makes it prudent to advance the pragmatic view that we shall only heal Africa when each sovereign state has addressed its own malaise. Essentially, matters sustainable and responsible exploitation of natural resources start and end with leadership; not just from the political prism but from the chasm of resource rich and resource poor perspectives.

As the conversations on critical minerals and just energy transition continue to occupy the minds of strategists across all disciplines of human existence and survival, Africa must never lose sight of its first call to duty: feeding her growing population in a healthy manner. This sounds very basic, yet it is central on how the continent will stand by the year 2050. A healthy, young and technology savvy population will command both respect and control of the world. Africa has this opportunity to lose! Strategically and critically, the individual nations of Africa must leverage on their mineral wealth to ensure a healthy and productive continent. This begs the question; what is more critical or strategic - phosphate rock or copper ore for a continent where citizens cannot afford three meals a day?

Sustainable growth and development for Africa hinges on managing the paradox of poverty among plenty. Africa must redeem herself by addressing poverty through leveraging on her vast mineral resources, without losing sight of the social economic issues that are cardinal in the exploitation of her natural resources. Policy must focus on environmental damage to critical habitats and landscapes, human right abuses, corruption, illicit financial flows, insecurity and adverse effects on economic resilience, Africa is on course to being the transforming the lives of her people and the planet. The main leverage shall be how Africa navigates the place of host communities and the place of artisanal and small scale miners, intentional coexistence with the large scale miners. This approach shall galvanize an atmosphere of transparency and accountability to unclog the kinks that have historically strangled relationships between stakeholders. From Cairo to Cape Town, Mombasa to Monrovia, Kampala to Kumasi, the drums of wealth creation are beating in symphony and the Africa dance is on! Let us seize the moment and spur Africa to greatness.

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EFRIS compliance – Are artisanal miners ready to comply?

Over time, the Uganda Revenue Authority ("URA") has taken various initiatives aimed at enhancing tax compliance and formalizing business operations across the country.

In line with this, on 25th July 2025, the URA issued general Notice No. 2218 of 2025 to gazette and expand the scope of taxpayers to include twelve additional businesses required to comply with Electronic Fiscal Receipting and Invoicing System ("EFRIS") effective 1 July 2025. EFRIS is a digital invoicing system connected to the URA's system. The move is part of a broader effort to increase

transparency, widen the tax base, and ensure that all persons contribute fairly to national revenue.

What has Changed?

Previously, only VAT-registered persons with an annual turnover exceeding UGX 150 million were gazette and mandated to issue electronic invoices via EFRIS. However, the new directive now requires all businesses operating in the following sectors, whether VAT registered or not, and regardless of revenue threshold, to also start issuing EFRIS invoices or receipts effective 1 July 2025:

- Mining and quarrying,
- Manufacturing,
- Accommodation and food service activities,
- Real estate activities,
- Utilities (electricity, water, waste management),

- Construction,
- Transportation and storage,
- Wholesale and retail of fuel,
- Professional, scientific, and technical services,
- Arts, entertainment, and recreation.

The above means that any person conducting business in the categories above, including artisanal or small-scale miners, persons conducting quarrying activities for the extracting near surface materials like stone, gravel, and sand, must issue EFRIS invoices or receipts for any sales made, irrespective of size and scale of operations.

Implications for Artisanal miners and quarrying businesses

The inclusion of mining and quarrying entities under the EFRIS framework represents a significant step in URA's efforts to broaden the tax base and strengthen tax compliance across Uganda's mining sector.

While many efforts have been made to recognise and formalise the operations of artisanal miners, most artisanal miners still operate informally, are not registered for taxes, do not file tax returns, and do not keep proper records including issuing invoices or receipts.

To comply with the new EFRIS requirements, these businesses will have to formalise their operations and also register for taxes.

While this move is intended to improve tax compliance and reduce revenue leakage, it raises concerns about the readiness and capacity of small businesses to adapt to the electronic invoicing requirements.

Most of them lack the infrastructure, technical expertise and financial resources to implement EFRIS smoothly. Currently, EFRIS compliance can be attained via using URA's web portal, direct linkage of the entity's accounting system to URA's, or use of an Electronic Fiscal Devices ("EFD").

However, the cost of implementation e.g. by way of system integration costs, acquiring EFDs, buying mobile data bundles, training staff can be cumbersome, especially for startups and low-margin businesses.

Impact on all entities – No Corporation Tax (CIT) deduction without an EFRIS invoice

One of the most critical implications of this directive is that businesses may not be able to claim deductions for certain expenses incurred without EFRIS invoices.

Currently, the Income Tax Act (ITA), bars taxpayers from claiming deductions for any expenses of at least UGX 5 million where the expense was in relation to purchases from a supplier who does not have a Tax Identification Number (TIN). The ITA also restricts claiming a deduction for expenses that are not supported by EFRIS invoices where the supplier is required to issue EFRIS invoices.

In the past, enforcement of the above provisions has been a challenge for various reasons ranging from low level of compliance amongst businesses, to limited scope of EFRIS application since only persons making VATable supplies above the UGX 150million

annual VAT registration threshold were gazetted and mandated to issue EFRIS invoices or receipts.

With the new directive, effective 1 July 2025, any person who buys anything from a supplier who is gazetted to issue EFRIS invoices or receipts, must obtain an EFRIS invoice from the supplier. Failure to obtain the EFRIS invoice from the supplier implies that the expense incurred will not be allowed as a deductible expense in the income tax return of the buyer; which will in turn imply that the buyer will end up paying more income tax.

To comply, all businesses may have to vet their suppliers and deal with only suppliers who issue EFRIS invoices or receipts. In turn, businesses that are unable to adopt EFRIS will be pushed out of supply chains as more businesses seek to be more tax efficient.

VAT Penalties and Compliance Risks

Effective 1 July 2025, if the business is required to be VAT registered, then the penalty for failure to issue EFRIS invoices is double the tax due.

For businesses that do not meet the annual VAT registration threshold of UGX 150 million, non-compliance with EFRIS requirements may still attract severe consequences. Upon conviction, such businesses could face a penalty of UGX 30 million or imprisonment for up to ten years.

Challenges for Informal operators

The requirement to issue EFRIS invoices for all sales made by a gazetted business, regardless of value, poses new challenges for artisanal miners; including the increased cost of doing businesses, or risk being marginalized and pushed out of the supply chain if they cannot afford to comply with EFRIS.

While the Government's intention is to encourage transparency and fairness, the transition must be managed carefully to avoid harming the very businesses the Government seeks to support.

Conclusion

The adoption of EFRIS marks a pivotal milestone in Uganda's pursuit of a more transparent and equitable tax system, offering clear benefits such as enhanced tax compliance, reduced fraud, and improved financial oversight. Nonetheless, the transition poses notable challenges for small and informal businesses, many of which may struggle to meet the associated compliance costs.

URA must continue to support, sensitise, train, and also extend incentives to help businesses adapt. Additionally, introducing a minimum threshold for mandatory EFRIS compliance aligned with the exempt presumptive taxpayer annual turnover threshold of UGX 10 million could help and allow small and micro-enterprises time to grow before taking on the financial and operational demands of full EFRIS compliance.

WORK: NO CHILD'S BUSINESS (WNCB) PROJECT BRIEF



Save the Children nascent
Nascent Research and Development Organization



STOP



CHILD LABOUR

UGANDA MAKES SIGNIFICANT STRIDES IN COMBATING CHILD LABOUR

The Ugandan government, in partnership with civil society actors and local stakeholders, has made notable progress in eradicating child labour and promoting quality education and decent work for youth. At Work No Child's Business (WNCB) National Close-Out Meeting on September 27, 2024, at Kabira Country Club in Kampala, officials announced the five-year programme's significant progress in combating child labour. The WNCB programme, an alliance between Save the Children, Uganda National Teachers' Union, UNATU, Environmental Women in Action For Development (EWAD), Nascent Research & Development Organization Uganda, and Hivos, has been instrumental in this effort. Since 2019, the programme has withdrawn and prevented thousands of children from child labour, supported youth in gaining skills for decent employment, strengthened community structures to address child labour, enhanced economic conditions through Village Savings and Loans Associations and income-generating activities, influenced policy at local and national levels, and promoted responsible business conduct in the mining sector.

According to the report, there has been a 5% decrease in child labour among children aged 5-17 years, from 56% at baseline to 51% in 2024. Additionally, there has been a 7.3% increase in school attendance among children aged 5-17 years, rising from 71.6% at baseline to 78.9% in 2024. The programme was conducted in Busia and Karamoja sub-region, including Moroto and Nakapiripirit districts.

Despite progress, 53.1% of children in Karamoja and 47% in Busia remain engaged in child labour within their households, characterized by excessive domestic work. In Busia, 84% of children aged 5-17 years attend school, compared to 76% in Karamoja. Young adults aged 18-24 years in decent employment increased by 15%, from 30% at baseline to 45% in 2024. Females in decent employment rose to 48%, while males stood at 41%. The report highlights that 39.4% of children in Busia and 65% in Karamoja face a high risk of child labour. However,

there has been a reduction in risk from 76% at baseline to 43.4% for Karamoja and Busia, respectively. The programme achieved a 26% reduction in dropout rates among children in their final years of primary school, from 50% at baseline to 24.4% in 2024.

Peter Lokeris, Minister for Karamoja Affairs, commended the progress in combating child labour, particularly in the mining sector. Community schools established under the programme provide education and mindset change for children. Mr. Hillary Businge, Assistant Commissioner in charge of Labour Productivity, emphasized the government's efforts to reinforce labour laws and policies, including The National Child Labour Policy, National Employment Policy, and the National Plan of Action for Elimination of Child Labour. "We aim to create a safe environment where children can thrive, free from exploitation and harm, with access to quality education and decent work opportunities," he said, commending the collaborative efforts of civil society players. Juliet Wajega, WNCB Country Coordinator, noted that poverty and inadequate access to education exacerbate child labour in Karamoja. Cultural norms also perpetuate child labour, with parents expecting children to provide for their families. "Children as young as six years old are forced to work in hazardous conditions to support their families," she said. "The root cause of child labor here is poverty. Children are forced to work in mines because they have no food, no basic necessities."

According to the International Labour Organization (ILO), 152 million children worldwide are victims of child labour, with 75 million working in hazardous conditions. Uganda has made progress, but challenges persist.

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Securing Uganda's Mining and Energy Interests through Collaborations:

The Role of the National Mining Company.

Mr. Bwesigye Don

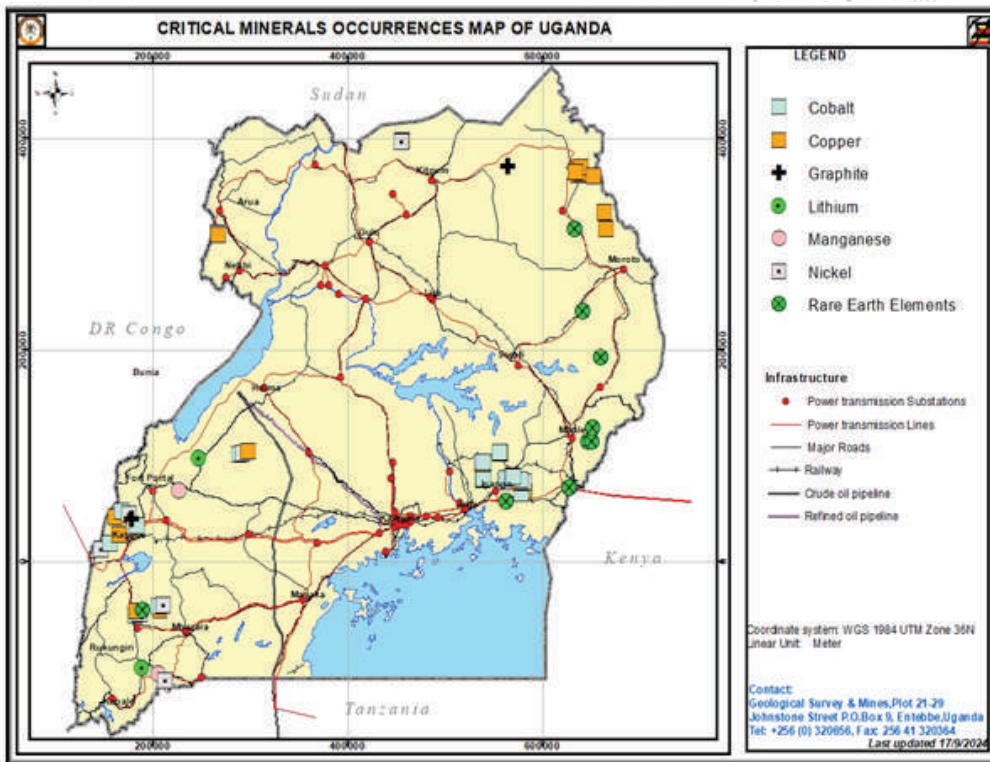
Executive Director - Africa Centre for Energy and Mineral Policy (ACEMP)

In 2018 the Ugandan Cabinet endorsed Uganda's revised Mining and Minerals Policy, 2018, this was followed by the review of Uganda's Mining Act, 2003 and Mining Regulations 2004 leading to a new Mining and Minerals Act, Cap.159. In 2023, the Ugandan Parliament domesticated the ICGLR Protocol on the Regional Initiative Against the Illegal Exploitation of Natural Resources (RINR) by passing the International Conference on the Great Lakes Region (Implementation of the Pact on Security, Stability and Development in the Great Lakes Region) (Prevention of Illegal Exploitation of and Illicit Trade in Designated Minerals) Act and Regulations, 2023.

The above mining policy and regulatory reforms were followed by the development of Uganda's Energy Transition Plan. How can the newly created National Mining Company (NMC) play a significant role in driving the country's commercial interests while activating Uganda's Energy Transition Plan. The Mining and Minerals Act, Cap.159, establishes the National Mining Company which is wholly owned by the state to manage Uganda's commercial and participating interests in mineral agreements. The National Mining Company is charged with managing the state's strategic commercial interests in the mineral sub-sector, optimisation of value for its citizens, participation in joint ventures, in which it holds an interest, and participation in meetings in furtherance of its participation in the respective of joint operating agreements. The NMC is by law charged with studying and proposing new mining ventures locally and internationally and to undertake the exploration and mining operations in the best interest of the state where private entities are unwilling to do so.

Uganda's Energy Transition Plan (ETP) which was launched on the 5th December, 2023 at the COP28 Climate Summit in Dubai, provides a vision for Uganda's pathway to universal energy access by 2030 and a more realistic target to reach net-zero emissions in the sector by 2065. Aside from a passing mention of critical mineral deposits of graphite at Orum in Northern Uganda, Copper, and Cobalt in Western region and Rare Earth Elements at Makuutu, Busoga Region in Eastern Uganda, the ETP understates the importance of critical minerals in driving Uganda's energy security and ultimately our national security.

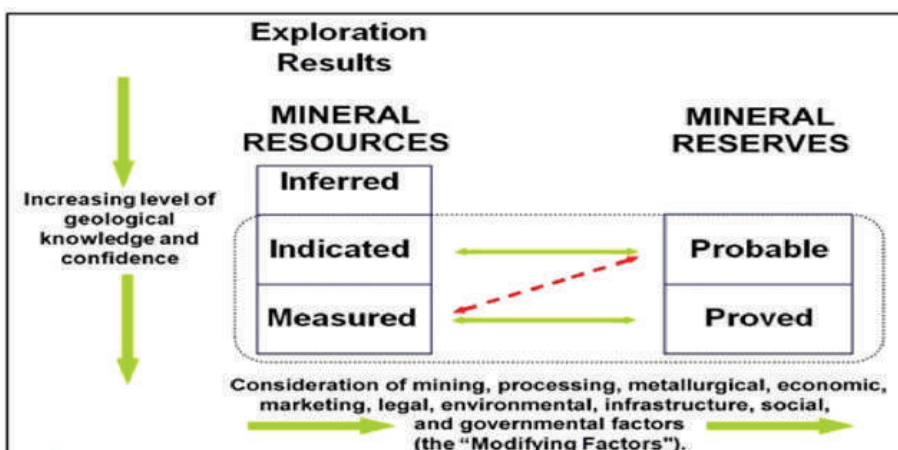
The ETP rightly proposes the need to undertake geological surveys to better understand critical mineral mining potential. It calls for the application and enforcement of rigorous environmental and labour standards in the mining sector, including reporting obligations, transparency standards, and integrating these regulations into the permitting process. It observes the need to assess the energy needs of mining operations and develop infrastructure to power these operations and ensure sustainable transport to markets. However, the ETP falls short of recognizing that Uganda's energy transition vision is incomplete without a critical minerals vision (demand and supply portfolio). The plan erroneously encourages under regulated tax incentives in an already economically incentivised sector driven by high demand, low supplies and obscene economic rents amidst the green energy climate change and a long-term forecast resource boom cycle.



Source: MEMD

Thankfully, the Ministry of Energy and Mineral Development (MEMD) has mapped all the country's critical minerals potential. This critical milestone should be followed up with an economic supply and demand modelling for critical mineral development enablers, and drivers for the proposed 2065 net-zero emissions scenario. The energy transition plan silence on green energy technology application for the different applications must be addressed. Applications such as our flagship EV-Technology innovation, Kiira EV's critical minerals demand, geothermal technology, solar and wind technology mineral demand and supply models should be undertaken to activate of our untapped abundant renewables. Underscoring the Importance of Mineral Exploration

and Resource Evaluation
Some of the above identified gaps in the ETP can be plugged by the National Mining Company through its mandate to study and propose mining ventures locally and internationally. Establishing the commerciality of the country's critical minerals through extensive investment in mineral exploration and resource evaluation. Most of the mapped critical minerals fall under inferred resource classification due to limited investment in exploration and drilling to escalate their classification to indicated, measured or the more economically and commercially classifiable probable or proven commercial reserves sought after by medium to large scale global mining majors.



Source: (Herbert, 2024)

Mineral Reserve Classification and Reporting

The results of a mineral economic assessment are usually reported by private mining companies or national mining companies in order to attract investors. Mineral resource classification standards were created in order to define rules for public disclosure of mineral projects, providing investors with reliable information to assist in their investment making decisions.

Establishment of an Internationally Accredited and Certified Mineral Report System

This will shade more clarity about Uganda's mineral resources, set internationally acceptable reporting standards for mineral geologists, engineers, metallurgists and economists. This clarity about the country's mineral wealth will re-assure investment capital about the commerciality and mineral reserve base to attract investments in mineral value addition and as a driver of access to and technology transfer.

Investment in Skills Development

There is also need for national planning and investment in human capital and skills development by 2065 to plug all the mineral sector skills shortage listed in National Development Plan III. The National Mining Company requires budget allocations to undertake extensive exploration of critical minerals as a matter of national and/or energy security. This cannot be achieved without the required skills sets, currently in short supply at national level.

In the absence of a Country's Critical Minerals Strategy and mineral stock-piling policies and laws to safe guard national and energy security, drive Uganda's net-zero climate change aspirations and realisation of our Energy Transition vision, the National Mining Company is well placed within Uganda's mining policy and regulatory framework to step up to the plate in protection of the country's national security by delivering the critical minerals necessary to drive our Energy Transition vision, into a futuristic secure green energy economy.

The boundless nature of minerals and their geological pre-existence implies that the National Mining Company will have put regional resource potential and geopolitics into consideration. The company must tap into existing regional synergies under the ICGLR and shared regional security and energy transition development interests to address national critical minerals demand and supply shortages.

Strengthening Mineral Development Partnerships between Uganda and European Union (EU)

In December 2023 China placed a moratorium on the export of technology to make rare earth

magnets on top of an already existing ban on export of technologies to extract and separate strategic critical minerals and materials. These developments from the world's leading stockpiler of critical minerals and controller of critical mineral processing technology, citing national security concerns should unite critical mineral resource rich Great Lakes Regional member states under the ICGLR framework and the EU Development Partners to treat access to critical raw materials as a matter of national and regional security. Resource rich regional countries such as Uganda, DRC, Tanzania and Zambia with significant resources/reserves of graphite, rare earth elements, cobalt, copper and nickel need to establish strategic alliances with Global North economies willing to collaborate in the exploitation and establishment of value addition refineries within the great lakes region to meet the region's energy transition strategic interests.

The EU has already demonstrated its willingness to engage African countries under the EU Critical Minerals Strategy in addressing their need to develop domestic and regional value addition credentials. Faced with fears and risks of critical minerals supply shortages, the EU seeks collaborations with African countries will be mutually beneficial mining interests.

Currently the EU is supporting a Just Energy Transition and a human rights approach to the exploitation of Rare Earth Elements in Makuutu-Busoga region and Graphite in Orom-Kitgum, northern Uganda through Enabel and her partners, the Africa Centre for Energy and Mineral Policy (ACEMP). Other projects supported by the EU, include the Sustainable Development of the Mining Sector in Uganda. This EU and GIZ initiative seek to boost investment, formalization of Artisanal and Small-scale mining (ASM), building local capacity and promoting responsible mineral supply chains and sourcing.

Such win-win initiatives and collaborations between the global north and African resource rich economies should be promoted and encouraged if African economies rich in critical minerals are to access refining and processing technology, retain value addition in form of jobs created, rents and revenues retained in their economies.

Uganda's National Mining Company has a significant role to play by building regional and international collaborations and shared commercial and national interests in the Great Lake's regional peers and the E.U to drive the country's regional value addition credentials and access to critical minerals processing technologies critical to the country's Energy Transition future. Such new strategic common-interest alliances will decrease the bullish and monopolistic behaviours exhibited by China in the shift towards a cleaner energy future.



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Sino Minerals Investments Company Limited (SMI)

One of the leading exploration and mining company in Uganda, established in 2011. Our headquarters are located in Kampala, Bugolobi, 5th Street, Plot 104-106. We have invested heavily in exploration and hold licenses across the country, believing that mining is key to unlocking Uganda's industrial potential and spurring development.

We have explored various minerals, including, Iron ore, Wolfram, Tin, Gold, Titanium and Limestone. Our exploration work has led to discovery of high grade iron ore deposit mine in Buhara, Kabale district and we currently hold different mining licenses.

SMI being the leading iron ore mining company in Uganda, mining activities have created employment opportunities, royalties remittances to government, Discovery of minerals
 Corporate Social Responsibility
 We have a strong corporate social responsibility

policy, which has positively impacted the communities we operate in through, provision of bursaries and scholarships, support for medical facilities, including acquisition of equipment and drugs, supporting the elderlies, construction of classroom blocks, Support for district road maintenance units

Value Addition with Terra Industrial Development Company Limited, Our sister company, will add value to our mining activities by processing iron ore into pig iron with the modern state of art electric furnace processing technology in Ntungamo district, Save the country foreign exchange through import substitution by utilizing local raw materials, such as iron ore, limestone and coke thus promoting local content in our manufacturing process.

By investing in exploration, mining, and value addition, we aim to contribute to Uganda's economic development and growth.

Cooperate to develop



Use of AI for mineral resource identification - Examples from Uganda

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Abstract: Artificial intelligence is transforming mineral exploration, offering a significant leap forward in our ability to identify and define concealed mineral deposits. This presentation abstract outlines the application of CAGE-IN, a proprietary AI-driven technology, to mineral resource identification in Uganda. CAGE-IN analyzes vast, disparate geological and geophysical datasets to reveal subtle patterns and signatures of mineralization that traditional methods often miss.

Introduction

Our case study focuses on the West Nile region, an area that is northern extension of the East African Nickel Belt with known nickel prospects but where exploration has been hindered by complex geology and surface cover. By applying CAGE-IN technology, we have effectively "constrained" geophysical data, filtering out noise and highlighting key geological features. This has led to the identification of new, high-priority nickel laterite and nickel sulphide targets. The technology not only accelerates the exploration timeline but also significantly reduces costs and risks, demonstrating a new, data-driven approach to unlocking Uganda's mineral wealth for sustainable development.

Introduction: A New Frontier in Mineral Exploration
Mineral exploration has long relied on a blend of traditional geological fieldwork, geophysical surveys, and a geologist's intuition. However, as near-surface deposits become scarcer, the industry faces the challenge of identifying deeply buried and subtle ore

bodies. In Uganda, a nation poised to become a significant player in the global mineral market, this challenge is particularly acute in underexplored regions. The advent of Artificial Intelligence (AI) and Deep Learning (ML) offers a powerful solution, revolutionizing how we find and define mineral resources. Our recent work in the West Nile region of Uganda provides a compelling case study for this transformative approach.

The CAGE-IN Technology: Unlocking Hidden Potential
Our methodology centers on CAGE-IN, a proprietary AI-driven technology specifically designed to enhance geophysical and geological data interpretation. The core principle of CAGE-IN is to "constrain" data using known geological boundaries, effectively filtering out extraneous noise and highlighting subtle, but crucial, signatures of mineralization. Think of it as peeling back layers of a complex geological map to reveal the key features that indicate the presence of an ore body. This approach leverages Bayesian inference, a probabilistic model that continuously updates its understanding of a prospect as new data is incorporated. This creates a dynamic "mind map" that guides exploration with a high degree of confidence.

Case Study: Discovering Nickel in the West Nile
East African Nickel Belt hosts major nickel deposits like Kabanga. The West Nile region, encompassing the Arua, Zombo, Yumbe, and Koboko districts, is a complex geological terrain with a strong affinity to the East African Nickel Belt. This area has potential for

nickel laterite and sulphide deposits. Traditional exploration has been hindered by deep weathering and thick soil cover, which obscure the underlying geology. Our project deployed the deep learning module of CAGE-IN technology that integrated multi-source geoscientific data, including magnetics, radiometrics, structural geology, geospatial data, and geochemistry.

CAGE-IN was used to process these datasets, allowing us to identify subtle geophysical anomalies that were previously overlooked. By training algorithms to recognize the specific signatures associated with nickel deposits in similar geological settings, we were able to generate highly precise targets for follow-up. This process not only identified new, high-priority prospects but also redefined the geological understanding of the area. The results were a significant leap forward in exploration efficiency.

Efficiency, Economy, and Sustainability

The application of AI in this project has had a profound impact on all aspects of the exploration cycle. The AI-driven approach accelerated the target generation and testing cycle by approximately 40%, a remarkable reduction in the time it takes to move from initial data acquisition to drill-ready targets. This increased efficiency also led to a comparable reduction in associated costs, making the exploration more economically viable.

Perhaps most importantly, the precision of AI targeting has promoted a more sustainable approach to resource development. By pinpointing the most prospective areas with greater accuracy, we were able to significantly reduce the overall environmental footprint. This minimized land disturbance and optimized the placement of drill holes, avoiding unnecessary impacts on the local ecosystem and communities. This case study in Uganda's West Nile region provides a powerful blueprint for leveraging AI to de-risk exploration, enhance discovery rates, and promote sustainable resource development in greenfield terrains globally. The future of mineral exploration is here, and it is intelligent.





THE IMPACT OF IMPRESSIONS IN BRIDGING THE SKILLS SET GAP IN THE MINING INDUSTRY

Naomi Nangoku
Senior Minerals Dresser

The mining industry of Uganda is one of those very promising and fast growing across the continent. As some countries are coming to the exhaustion of their main mineral commodities, Uganda on the contrary is yet to scratch the surface of its rich mineral resource that is widely spread across the country

With the NDP IV including mining as one of the key drivers for industrialization, it implies that actually, the mining sector is very foundational in the industrialization of Uganda. Also, this means that there is an expected increase or vigorous strides in the exploration, exploitation and utilization of minerals. However, with the current ongoing exploration and mining activities, there's a persistent outcry of the insufficient in country skill sets to feed into the growing sector. Inasmuch as we have the guidelines on national content, companies have no option but to bring in foreigners with the skills needed to develop their exploration and mining plans.

What could be the underlying challenge that affects the thriving of necessary in country skill sets that are required in the mining industry? Well, it could be a series of things contributing to this however I will highlight a few that seem very critical and can be resolved swiftly.

Theres a statement in the bible that says "show the children the way they should go and they will never depart from it" as children grow up and later have to decide on what to undertake for a living or career, they are easily inclined to what they have been impressed with as they grew up. This could be either in schools, home/community or televised messages. Its strange but true. Young people will prefer business, medicine, law, Education, engineering specifically civil because, as they grew up, they were impressed by various avenues that these were the great careers for any one to be successful

For the country to bridge the skill sets gap in the mining industry, there must be a deliberate move to impress the young people with mining. One critical area that needs urgent attention in bridging the gap is the Education system. Our curricula need to be refined and aligned to include topics/subjects on mining. Mining has to be viewed as a prestigious

and important economic activity among the young. This can be achieved but not limited to: offering scholarships for mining related courses, exposition trips to mining cities in the world, publicizing the contribution of mining to economic growth and industrialization, increase the visibility of the only mining school in Uganda(Busitema University), introduce TVET centres in mining, dismiss the negative perception of mining as dirty, dangerous, or environmentally harmful, investment in youth development, apprenticeships, and continuous learning programs which hampers skills development.

Recently the Ministry of Energy and Mineral development together with the Junior Uganda Chamber of Energy and Minerals with support from UNDP carried out regional Business and Employability Training designed specifically for young entrepreneurs, final-year university students, recent graduates, and earlycareer professionals engaged in Uganda's mining sector. This training, that attracted great interest among the young people, impressed them the various career opportunities in the sector, the benefits and contribution of the sector among others. This inspired the young people in attendance to join the sector at various points

Such sessions to impress young people with the mining sector should be supported and spread to secondary schools as well. It's very commendable for the Uganda Chambers of Energy and Minerals to introduce the Junior Chambers of Energy and Minerals, an arm that can be used to impress the young people at different stages of education with the mining industry.

Once a mindset shift is achieved, which is the aim of impressions and all the above recommendations adopted and implemented, Uganda will have sufficient manpower, and skill sets to feed into the growing mining industry hence realize the dream of an industrialized state.

All stakeholders: government, private sector, communities, mining companies and development partners have to join synergies to bridge this gap once and for all.



People, Planet, and Profit: Building a Sustainable Mining Future for Uganda

Eng. Jill Whitehouse Munyes

Team Leader _ Membership

Mining is never just about the minerals we extract, process, and turn into useful materials for daily life. It is a complex enterprise that draws together multiple players — industry, government, and communities — into a shared ecosystem. For mining to be sustainable, this ecosystem must rest on three interconnected pillars: people, planet, and profit. Balancing these forces is not easy, but it is essential if Uganda is to avoid the mistakes of the past and turn its mineral wealth into lasting prosperity.

At its heart, mining is about people. It creates jobs, builds new markets, and attracts investment. But it also reshapes communities — sometimes bringing opportunities, other times requiring relocation from ancestral land. The people most affected are those living closest to mineral deposits or working in small-scale and artisanal mining.

For sustainability to take root, communities must not only share in the benefits but also have a voice in decisions that affect their lives. Equally important is respecting the rights of workers in the mines. Companies and investors have a duty to ensure fair wages, safe working conditions, and dignity on the job. When workers are empowered and treated justly, productivity rises and trust grows across the sector. Stronger local content policies, fair compensation for affected communities, and real investment in infrastructure, education, and health are all part of putting people first. Mining should uplift, not displace or exploit, those at its frontlines.

Mining, just like all humans' existence, inevitably impacts the environment. From land degradation and loss of biodiversity to water pollution and waste management challenges, the sector must confront its ecological footprint. A sustainable approach requires careful planning before, during, and after operations. Post-mining land rehabilitation, investment in cleaner technologies, and strict environmental standards can

ensure that extraction today does not leave tomorrow's generations worse off. Protecting the planet is not just a moral duty — it is also an economic necessity, as degraded ecosystems undermine agriculture, health, and future development.

Profit is the most visible pillar of mining. Across history, minerals have built kingdoms, financed economies, and shaped geopolitics. Uganda's mineral sector holds immense promise to fuel growth, create industries, and raise revenues. Yet too often in Africa, profits have flowed outward — enriching foreign companies while leaving local communities in poverty. Uganda has a chance to chart a different course. By prioritizing value addition, investing in mineral processing, and reinvesting revenues into infrastructure and renewable energy, the country can transform profits into prosperity that benefits all Ugandans.

The advantage Uganda has today is timing. Our mineral sector is still at an early stage of development, which means we can learn from the mistakes of others. By embedding sustainability into the foundations of the industry, Uganda can build a mining sector that does right by people, safeguards the planet, and maximizes profit for national development. This aligns directly with the ambition of the National Development Plan IV, which seeks to grow the economy tenfold in the coming years.

Mining is always a gamble — a high-stakes bet on resources beneath our feet. But with the right balance of people, planet, and profit, it can be a winning hand for Uganda. The task ahead is to design policies, partnerships, and practices that ensure mineral wealth leaves us better off, not worse. Done well, mining can be not just an engine of growth, but also a legacy of sustainability for future generations.



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