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## SALAMBIDWE SEARCH

 DY6 conducts airborne geophysical survey for Salambidwe rare earth, niobium prospect



Honourable Chang'anamuno captured at the launch of the Airbone Geophysical Survey with Mr Banda (left) and Mr Saindi

#### **By Bester KAYAYE**

SX-listed DY6 Metals has undertaken an airborne geophysical survey for Salambidwe Rare Earths and Niobium Prospecting Project in Chikwawa District in Southern Malawi, which is a virgin rare earth prospect with lim-

ited previous exploration.

Malawi's Minister of Mining Honourable Monica Chang'anamuno officially launched the survey, which DY6 conducted through its Malawian subsidiary Green Exploration with local firm Akatswiri Mineral Resources as consultants.

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# Investors lobby for India-Malawi Double Taxation Treaty



Gurulingaswamy: Investors are hesitant

#### By Marcel CHIMWALA

Indian investors say there is a need for the governments of Malawi and India to sign a Double Taxation Treaty in order to prevent the taxation of the same income or assets in both countries, which is a stumbling block to investment.

A representative of the investors who is also MD for Trinity Ventures Inc. K.S. Gurulingaswamy says in an interview with *Mining & Trade Review* that it could be beneficial for Malawi to have a Double Taxation Pact with India in order to attract huge investments from that country.

Gurulingaswamy says: "There are large number of rich Indian business people who are interested to invest in Malawi due to the good opportunities available."

"They are interested to invest in sectors such as Agriculture, Tourism, Mining, and Renewable Energy. However, due to the non-existence of a Double Taxation Treaty between the countries and the uncertainty faced due to it, such investors are hesitant to invest and start businesses in Malawi."

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# DY6 Metals announces encouraging results in Machinga Rare Earths Exploration

SX-listed DY6 Metals says it is coming up with encouraging results in its exploration for Rare Earth Elements (REE) and Niobium in its Machinga Prospect.

CEO for DY6 Lloyd Kaiser says in the Company's annual report for 2023 that the Company has completed a maiden drilling campaign at the Machinga North prospect for a total of 4,543m, consisting of 35 reverse circulation (RC) holes for 3,643m and eight diamond drill (DD) holes for 900m.

Kaiser says: "The initial drilling program has rapidly advanced geological knowledge of the Machinga alkaline complex. The drill core shows hydrothermal breccias, granite gneiss and migmatite with radiometric responses showing strong correlation with the hydrother-

"REE mineralisation was visually identified in the majority of drill core at the Machinga North prospect and indicates the potential for a large mineralised system over numerous

He explains that preliminary interpretation of the drill core aligns with previously reported geological evaluation of the mineralisation, which is tentatively identified as Eudialyte, an important zirconosilicate and REE bearing mineral that is enriched in Heavy REEs; Dysprosium and Terbium.

Successful completion of maiden drilling program at Machinga project confirmed high grade HREE-Nb from RC drill results at Machinga Central Zone. The initial drilling program focused on targeting the anomalous zone at the northern area of Machinga central where historical 2010 drill program for 4000m (Machinga North) was completed.

Significant assays included: 13m @ 0.65% TREO, 0.25% Nb2 O5 from surface; incl. 1m @ 1.06% TREO, 0.37% Nb2 O5 from 7m, and 1m @ 1.28% TREO, 0.42% Nb2 O5 from 9m (MR019) – 7m @ 1.42% TREO with 0.49% Nb2 O5 from 65m (MR011) – 16m @ 0.54% TREO with 0.21% Nb2 O5 from 78m, incl. 3m @ 1.63% TREO, 0.7% Nb2 O5 from 87m (MR005)

The company is currently progressing a second phase of soil and rock chip sampling along with future ground radiometric survey at Machinga central and southern zones to develop targets for the next drill program in 2024. Kaiser explains that future soil results aim to show significant potential uphill NE and to the south of the initial focus of drilling ac-

"I am buoyed by the progress we have made on the ground in Malawi and the direction of the Company in general. The main point of attraction for me in joining DY6 was the portfolio of rare earths and specialty metals' projects that had been assembled in Malawi, the "warm heart" of Africa," says Kaiser.

Rare Earths have a growing global demand as they are used for production of high strength magnets for manufacturing of electric motors for EVs.

Looking at the longer-term view, respected forecasting group Adamas Intelligence proj-

ects that by 2035 there will be a shortage of Dy-Tb equating to two to three times global production in 2021. Kaiser explains that this presents an appealing backdrop for advancing Machinga, keeping in mind that the project also holds significant potential for niobium and tantalum, two critical metals for which demand is similarly being driven by the green energy technology thematic.

He says: "As some of you may know, my background is in chemical engineering. I have spent more than 30 sector, including significant time with Arafura Rare Earths, owner of the Nolans Bore rare earths project in the Northern Territory. Whilst at Arafura, I gained a deep understanding of the rare earths supply chain and end-user requirements, as well as the complexities of process flow- Diamond drill core at Machinga site sheet development in the sector.'



years in the resources Diamond Drilling at Machinga North Prospect



"I look forward to applying this experience to DY6 and driving the Company's transformation from a relatively new explorer into an innovative mining company that creates value for stakeholders through the development of strategic critical metals."

### DY6 conducts airborne geophysical survey for Salambidwe rare earth, niobium prospect



The DY6 team showing the Minister map of the exploration site

From page 1

DY6 CEO Lloyd Kaiser said in a Press Statement that the Company completed the airborne geophysical survey after carrying out an extensive geochemical sampling and geological mapping program at the highly prospective site.

Kaiser said: "Following completion of the geochemical program, the Company completed an airborne geophysical program at Salambidwe, consisting of 45-line kilometres of electromagnetic plus radiometric surveying to map the magnetic and conductive properties of the geology.'

"The combined geochemical and geophysical data is aimed at refining targets prior to a maiden drill program."

In her speech during the launching ceremony of the geophysical survey at Chileka Airport in Blantyre, Changanamuno lauded the survey saying it manifests growing private sector interest in Malawi's mining sector.

"The importance of these minerals cannot be overstated, given their integral role in various projects, particularly those related to green energy. The fact that these exploration endeavors are spearheaded by a private investor underscores the confidence placed in Malawi's mining potential by foreign investors.'

Chang'anamuno said she is optimistic that the survey will attain a more detailed quantified mineralization data for strategic planning due to its higher resolution and targeted approach as compared to the previous national airborne surveys executed by the Malawi Government including Geological Mapping and Mineral Assessment Project GEMMAP and the Kauniuni Survey that was conducted as part of the Mining Governance and Growth Support Project (MGGSP).

She said: "Unlike previous broad airborne surveys covering extensive regions in the past, this undertaking is more focused, utilizing high-resolution geophysical techniques."

"The assurance is that this survey will delve into areas previously untouched, promising a more detailed and comprehensive understanding of the mineral deposits in the region, using the helicopter, not the past low flying fixed wing aircraft."

The survey lasted seven days, with the findings expected to be compiled and completed early next year.

Chang'anamuno assured the investor of a conducive investment climate in Malawi saying her Ministry has taken measures to streamline processing of mining licenses, ensuring a more efficient and centralized application process.

She explained that Government has established a ministerial committee, comprising relevant officials, dedicated to vetting each licence application.

"This approach aims to simplify and expedite the licensing process eliminating the need for investors to navigate multiple Ministries for license approval," Chang'anamuno said. In his speech, Country Director for Green Exploration Troth Saindi said the Company is determined to unlock the potential of its three key projects in Malawi namely Salambidwe, Machinga and Ngala Hills in Balaka.

'Our extensive studies have revealed that the Chilwa Alkaline Complex, where the projects are located is renowned for hosting these critical minerals, making exploration a worthwhile investment," he said.

CEO for Akatswiri Mineral Resources Hilton Banda commented that after completing the geophysical survey, they anticipate moving swiftly into the exploration drilling phase, scheduled for April.

"Our engagement with local communities during the exploration phase has already resulted in the employment of 30 locals, ensuring skills transfer for the benefit of future projects. Looking ahead, we anticipate expanding our local workforce to over 50 during the drilling phase," Banda said.

Banda also thanked the Minister and his team for showing commitment to support private sector investment in mining underlined by his presence at the ceremony.

Located in southern Malawi close to the border with Mozambique, the Salambidwe Ring Complex is approximately six kilometers in diameter (approximately 85% occurs within the license) and is dominated by syenite and nepheline syenite with a core of agglomeratic rocks. These alkaline rock suites are known hosts to a variety of different economic commodities including niobium and REEs,

The Chilwa Alkaline Geological Zone hosts well-known proven rare earths deposits including Kangankunde in Balaka and Songwe Hill in Phalombe District.







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#### **EDITORIAL**



**Dutstanding progress in** Malawi mining sector in **2023 signifies investor** confidence that should be cherished

The year 2023 will be remembered as one in which Malawi's mining sector registered outstanding progress. To begin with, after years of negotiations, the Malawi Government signed a Mine Development Agreement (MDA) with ASX-listed Globe Metals & Mining to start mining at the multi-commodity Kanyika deposit in Mzimba that contains niobium, tantalum, uranium and zir-

As reported on Page 7, in the year 2023, ASX-listed Lindian Resources also published a Mineral Resource Estimate (MRE) which established Kangankunde Rare Earths Deposit in Balaka as one of the world's largest rare earths projects in the world pegging the rare earth resource at 261-million tonnes averaging 2.19% Total Rare Earth Ore (TREO) above a 0.5% TREO cut-off

Another good news in the year came from ASX-listed Sovereign Metals which released results of a Pre-Feasibility Study (PFS) which confirmed Kasiya as potentially a major critical minerals project with an extremely low carbon footprint delivering major volumes of natural rutile and graphite while generating significant economic returns.

The results indicate that the proposed large-scale operation will process 24 million tonnes of ore per annum to produce approximately 245kt of natural rutile and 288kt of natural graphite per annum once at steady state.

The year has also seen some good news coming from Machinga where ASX-listed DY6 Metals is reporting encouraging results in its exploration for rare earths and niobium.

We wholeheartedly agree with Minister of Mining Monica Chang'anamuno as quoted in our lead article that the fact these investments in mineral resource development are being initiated and accomplished by the private sector manifests that Malawi is gaining investor confi-

We, therefore, urge the Malawi Government to harness this investor confidence by ensuring that important permits for projects are processed in time.

Likewise, in order to cherish this investor confidence, Government needs to live up to its word to have the MDAs for Songwe Hill Rare Earths Project and Kayelekera Uranium Mine signed before the end of

Malawi needs more mining investors to bring foreign exchange into the country through Foreign Direct Investment and we believe the appropriate way to attract the investors is to treat fairly the existing investors while at any cost avoiding bureaucracy and corruption.

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## discover gold in

rtisanal and Small-scale Miners (ASMs) have identified a gold mining site in Milepa, Chiradzulu district which is attracting scores of miners, and local and foreign gold buyers.

One of the Miners Misheck Galaja confirmed in an interview with Mining &Trade Review that the ASMs are purchasing or renting land from smallholder farmers in the area for gold panning purposes.

Galaja said they are selling the gold grains, which he said are of good quality, to middlemen who have markets abroad or in turn sell to Export Development Fund (EDF) in Mangochi, because EDF officers are yet to come to the site to

"We are selling to these buyers because we are looking for a ready market as we are in need of money for survival. We do not have money and time to take the gold to as far Mangochi where EDF officers are buying gold," he said.

Galaja said the ASMs started mining at the site in November, and they continue to land on good quality gold par-

However, Galaja expressed concern over poor sanitation at the site due to shortage of clean water and toilets.

"We are at a high risk of contracting diseases such as cholera as we do not have toilets as well as potable water to drink, we just use the bushes as toilets putting ourselves at a high risk," he said.

Galaja called on government to assist the ASMs at the site by ensuring that they are licensed and trained in sustainable mining practices.

Malawi has a number of ASM hotspots including Makanjira in Mangochi, Tukombo in NKhata Bay, Bua River area in Kasungu, Balaka, Neno and Matapira in Lilongwe.

Besides poor sanitation, other issues at the sites include child labour, alcoholism, marriage breakages and pupils dropping out of school to indulge in mining activities.

#### Investors lobby for India-Malawi Double Taxation Treaty

Double taxation treaties offer several benefits to investors including avoidance of double taxation, which is done by specifying rules on how income should be taxed in each country to ensure that taxpayers are not unfairly taxed on the same income or assets in both countries.

Gurulingaswamy also explains that such a pact plays a role in the promotion of cross-border trade and investment by providing clarity and certainty to individuals and businesses regarding their tax liabilities in different countries.

"This clarity reduces tax-related uncertainties and promotes international economic activities," he says.

Gurulingaswamy says tax treatie also make a country more attractive for foreign investors by providing favourable tax treatment, such as reduced withholding tax rates on dividends, interest, and royalties explaining that this can incentivize foreign companies to invest in the country by making it more financially appealing.

Tax treaties also facilitate cooperation and exchange of

information between countries' tax authorities.

He says: "This helps in preventing tax evasion and ensuring compliance with tax laws by allowing the exchange of information between the signatory countries.

"By providing clear guidelines for determining tax liabilities in cases involving cross-border transactions, tax treaties can reduce administrative burdens for taxpayers. This clarity simplifies tax compliance procedures, saving time and resources.

Currently, South Africa, Ethiopia, Botswana, Namibia, Mozambique, Kenya, Tanzania, Zambia, Uganda and Morocco, which are enjoying massive investments from India, have a Double Taxation Treaty with the Asian economic

Malawi has signed double taxation treaties with Botswana, Denmark, France, Kenya, Mozambique, Netherlands, Sweden, Switzerland, United Kingdom and United States of America.

There are also pending treaties with Egypt, Mauritius, Norway, China, Seychelles, Zambia and Zimbabwe.

Malawi taxes at source unlike countries like the United States that tax worldwide income on its citizens.

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# Lotus shines on Corporate Social Responsibility in Kayelekera area



Lotus sponsored the Karonga-Chitipa Cultural Festival

#### By Marcel CHIMWALA

7ith the belief that maintaining a good relationship with communities that surround its mines is fundamental to enhancing business productivity and sustainability of its projects, ASX-listed Lotus Resources is ending the year contented after successfully implementing a number of community development projects in the area surrounding its Kayelekera Uranium Mine in Karonga.

Lotus MD Keith Bowes says in the company's Sustainability Report for 2023 that the Company has, among other things, provided solar power to the Kayelekera Health Centre as the Kayelekera area is not connected to the Malawi power grid.

The Company, which finances ongoing maintenance of the facility, has also installed a solar-powered pump that delivers water to the Kayelekera Health Centre, Kayuni Primary School and surrounding communities through pipes and storage tanks.

Bowes says in the report: "Potable water sources are scarce around Kayelekera as the groundwater is generally salty (hard water) and surface water is contaminated with animal faecal matter.'

"Lotus is committed to improving access to safe potable water for drinking and domestic uses, to improve the health of the people around Kayelekera."

#### Ambulance to transport and care for emergency patients

In the event of a serious accident in the Kayelekera Villages or surrounding areas, Bowes reports that Lotus assists the community by transporting injured people to the Kayelekera Health Centre in the site ambulance.

The site ambulance is also used to transport patients that require additional specialised treatment than what is available in Kayelekera to the Karonga District Hospital

#### Spraying mosquito habitat to reduce the spread of Malaria

During the 2023 wet season, the Kayelekera Health Centre reported an increase in Malaria cases compared to the previous wet season, which was likely caused by an increase in the population of mosquitoes in the Kayelekera Villages and surrounding areas.

Bowes says Lotus, therefore, implemented a mosquito abatement program around Kayelekera, Simfukwe, Juma and Chiteka.

"This resulted in a positive impact with the number of malaria cases decreasing in response to the program. To help mitigate Malaria cases in the future, Lotus is planning to perform two mosquito spraying campaigns annually," he says.

#### Refurbished the water system and power supply for Wiliro Health Clinic

During 2023, Lotus supported the Wiliro Health Clinic by refurbishing their piped water system and power supply. The work involved providing a Lotus plumber and electrician to improve access to clean water at the Centre. The power supply works will

be finalised in 2024.

"This work has been especially important for maternity patients."

#### Provided support to reduce the spread of Cholera



The community receives tree seedlings



The company supports Monica Secondary school students



Lotus assists Wiliro Clinic

During the year 2023, several districts in Malawi recorded Cholera cases. Bowes reports that Lotus provided tents and Personal Protective Equipment to Kayelekera Health Centre to help reduce the spread of infection to other patients or doctors.

#### Sponsored high school students

Lotus also provided financial support to 10 students (aged between 13 and 18) from the St Monica Secondary School within Mwenechilanga Village Development Committee area located at Wiliro, 12km north of Kayelekera.

Bowes says the funds provided tuition fees, school uniforms, and books.

"All the students completed the school year, with some of the students excelling in their respective classes," he says.

#### Sponsored Kayuni Primary School PSLC exams

Lotus supported the Kayuni students in their final year of primary school by helping them prepare for their Primary School Leaving Certificate (PSLC) exams.

The school has limited resources and requested support from Lotus.

"Lotus was able to assist by printing mock exam papers for nine subjects and provided laboratory equipment for the exams," says Bowes.

#### Seedling distribution to communities and schools around Kayelekera

In the year 2023, Lotus donated 3,130 seedlings to communities around Kayelekera and Simfukwe.

'The objective of this seedling program was to encourage an ecological conservation culture within the communities around Kayelekera. The Government Forestry and Conservation officers based around Kayelekera are supportive of the project and are evaluating how they could replicate the seedling program over a larger area," says Bowes.

#### Sponsorship of the Karonga-Chitipa Cultural Festival

Lotus also sponsored the Karonga - Chitipa Cultural Festival which is an annual event that fosters unity and love between the people of Karonga and Chitipa by celebrating their heritage.

The festival, which took place at the Mbande Hills Cultural Heritage Site in Karonga, included cultural dancing, drama performances, awards and speeches.

It was hosted by Paramount Chief Kyungu with State President Dr Lazarus McCarthy Chakwera as the guest of honour.

#### **Internship Students Working at the Kayelekera Mine Site**

Nine students from the Malawi University for Business and Applied Science have completed internships at Kayelekera since Lotus acquired the mine in March 2020. The students study a range of degrees including geology, mining, engineering, metallurgy, and environmental and laboratory science.

Bowes reports that two internships were offered in 2023. The internships involved, surface water and groundwater monitoring, monitoring ground movement and data collec-

Lotus also sponsors five teachers at Kayuni Primary School and three teachers at Juma Primary School.



Lotus sponsors five primary school teachers

#### MINING

## Malawi's top mineral sector projects of 2023



The project located at Kangankunde Hill in Balaka is owned by ASX-listed Lindian Resources

#### **Last Developments**

In the year 2023, Lindian published a Mineral Resource Estimate (MRE) which established Kangankunde as one of the world's largest rare earths projects pegging the rare earth resource at 261-million tonnes averaging 2.19% Total Rare Earth Ore (TREO) above a 0.5% TREO cut-off grade.

The Kangankunde deposit contains excellent grade, uniquely non-radioactive material and a high percentage of rare earth elements that are key to the clean energy transition.

Lindian has also defined an exploration target for the Kangankunde Rare Earths Project Central Carbonatite of between 400-million tonnes (lower range) to 800-million tonnes (upper range) grading between 2.0 and 2.7% TREO.

The exploration target demonstrates the potential for the Kangankunde Project to grow significantly with further exploration activity and is, without doubt, one of the world's largest rare earths deposits and an asset that is expected to have a material impact on the rare earths sector globally.

Kangankunde is now firmly established in a class of rare earths projects that are regarded as the very best in the world as defined by scale, grade and the quality of resources.



#### 2.Kasiya Rutile Exploration Project

The project which is located in Kasiya in Lilongwe District is owned by ASX-listed resources group Sovereign Metals

#### **Latest Developments**

Sovereign Metals has fast-tracked exploration work at Kasiya. On September 28, 2023, the Company released results of Pre-Feasibility Study (PFS) which confirmed Kasiya as potentially a major critical minerals project with an extremely low carbon footprint delivering major volumes of natural rutile and graphite while generating significant economic returns.

The results indicate that the proposed large-scale operation will process 24 million tonnes of ore per annum to produce approximately 245kt of natural rutile and 288kt of natural graphite per annum once at steady state.

Kasiya is the largest natural rutile deposit and second largest flake graphite deposit in the world

Both rutile and graphite are critical to the world economy as well as crucial to decarbonisation solutions required to meet "Net-Zero" and other targets set by policy makers worldwide.

The Project has the potential to thrive on the global market as currently sources of natural rutile are in decline as several operations' reserves are depleting concurrently with declining or grades.

In July 2023, global mining giant Rio Tinto made an investment in Sovereign Metals resulting in an initial 15% shareholding and options expiring within 12 months of initial investment to increase their position to 19.99%.

Rio Tinto, as a strategic partner, will provide assistance and advice on technical and marketing aspects of Kasiya including with respect to Sovereign's graphite co-product, with a primary focus on spherical purified graphite for the lithium-ion battery anode market.

The Company is planning to commence the optimisation phase prior to advancing to the Definitive Feasibility Study for the project.



#### 3. Songwe Hill Rare Earths Project

The project is located at Songwe Hill in the Southern District of Phalombe. It is owned by a Canada's TSX Venture Exchange and the AIM Market of the London Stock Exchange listed UK firm, Mkango Resources, through its subsidiary Lancaster Exploration.

#### **Latest Developments**

After 13-years of mineral exploration investment amounting to over US\$30-million, Mkango Resources is now on the brink of getting a signed Mining Development Agreement and Mining Licence before the end of 2023 following confirmation by Minister of Mining Monica Chang'anamuno who visited Songwe Hill this year.

Mkango announced exciting results of a Definitive Feasibility Study (DFS) for the project which has pegged the net present value ("NPV") for the project at US\$559.0-million post-tax, using a 10% nominal discount rate, with an internal rate of return ("IRR") of 31.5%, payback period of 2.5 years from full production (5 years from start of capital expenditure) and post-tax life-of-operations nominal cash flow of \$2.1 billion.

Songwe is now confirmed as one of the very few REE projects globally to have reached the DFS stage, with a full Environmental, Social, Health Impact Assessment ("ESHIA")

completed in compliance with International Finance Corporation (IFC) Performance Standards and The Global Industry Standard for Tailings Management (2020) ("GISTM") adopted for design and management of the tailings storage facility.

The project is targeting rare earths such neodymium, praseodymium, dysprosium and terbium which are critical for the green transition, used in permanent magnets for electric vehicles, wind turbines and many electronic devices.

The DFS results show that Songwe Hill will have a long operating life of 18 years, with mining assumed to commence in February 2025, production ramping up from July 2025 and averaging 5,954 tonnes per year total rare earth oxides ("TREO") for the first five years of full production (September 2025 – August 2030), including 1,953 tonnes per year of neodymium and praseodymium oxides, and 56 tonnes per year of dysprosium and terbium oxides, in a mixed rare earth carbonate ("MREC") grading 55% TREO, generating nominal earnings before interest, taxes, depreciation and amortisation (EBITDA) of US\$215 million per year.



#### 4. Kayelekera Uranium Mining Project

The project is located at Kayelekera area in Karonga District. It is owned by ASX Lotus Resources which owns an 85% interest in the project while the remaining 15% is owned by the Government of Malawi. Lotus acquired major stake in Kayelekera in March

2020 from another Aussie firm Paladin Energy.

#### **Latest Developments**

Lotus is currently negotiating to sign a Mine Development Agreement (MDA) with the Malawi Government, which has set end of 2023 as the deadline to have the MDA signed.

The Company completed a Definitive Feasibility Study (DFS) which has confirmed Kayelekera Uranium Mining project as one of the lowest capital cost uranium projects globally whilst also having the ability to quickly recommence production once a Final Investment Decision (FID) has been made.

Lotus is also focusing on accelerating engagement with various nuclear energy utilities and securing offtake agreements with the necessary volumes and pricing mechanisms to support the restart of Kayelekera whilst also considering various financing options to fund the restart.

During the year, Lotus continued its discussions with Electricity Supply Corporation of Malawi (ESCOM) for a Power Implementation Agreement along with the Power Supply Agreement which will facilitate connection of the mine to the nation's low cost power grid.

The Company along with technical consultants also worked with ESCOM through a technical working group to define the optimal grid connection solutions and associated power reliability and upgrade costs.

The uranium spot price has increased during the September quarter from a low of US\$55.40/lb to finish the quarter at US\$73.50/lb, a 33% increase and a multi-year high. The UXC Long term price increased by US\$5.00/lb to US\$61.00/lb over the quarter.



#### 5. Machinga Rare Earths Exploration Project

The project is owned by ASX-listed DY6 Metals through its subsidiary Green Energy Exploration and involves exploration for rare earths and niobium in Machinga.

#### **Latest Developments**

The Company has completed a maiden drilling campaign at the Machinga North prospect for a total of 4,543m, consisting of 35 reverse circulation (RC) holes for 3,643m and eight diamond drill (DD) holes for 900m.

REE mineralisation was visually identified in the majority of drill core at the Machinga North prospect and indicates the potential for a large mineralised system over numerous zones.

Successful completion of maiden drilling program at Machinga project confirmed high grade Heavy Rare Earths Elements and Niobium from RC drill results at Machinga Central Zone.

DY6 is also conducting rare earths and niobium exploration at Salambidwe in Chikwawa and Ngala Hills in Balaka. Working with Malawi's leading mineral consultancy firm Akatswiri Mineral Resources, DY6 has just completed an airborne geophysical survey for Salambidwe as part of the exploration process.



#### 6. Kanyika Niobium Project

The project is located in Kanyika in Southern Mzimba. It is owned by ASX-listed Africa focused resources group Globe Metals and Mining.

#### **Latest Developments**

Globe Metals has this year signed a Mine Development Agreement with the Malawi Government and is scouting for off-take partners.

The Company finalized feasibility studies at Kanyika which is a multi-commodity deposit containing niobium, tantalum, uranium and zircon.

The project will produce high purity niobium pentoxide and tantalum pentoxide powders which will be used as additives to steel to enable steel mills to produce high-margin products through enhanced flexibility, weight reduction and strength.

In the year 2022, through a consultation with both Globe technical partners and Namibian Consultants, the Company selected Walvis Bay in Namibia as the refinery location and more specifically the Walvis Bay Heavy Industrial Zone.

The location was selected as both Namibian Government and Namibian Uranium Industry are well – versed in the protocols of dealing with radioactive materials and the safe storage of residues.

Additionally, Namibia and Walvis Bay in particular have an active engineering contractor community and labour force well versed in the construction of sophisticated plants and with working with processes similar to the proposed chlorination process.

The project requires an investment of US\$350 million and will rake in gross revenue of US\$70 million per year over a mine life of over 20 years, employing about 1000 workers.

### Govt. reports progress on formalization of small scale miners

#### By Chrissy Fereciah NKUMBA

he Ministry of Mining says it is registering progress in the formalization of Artisanal and Small-scale Miners (ASMs) in different parts of the country, which is involving organizing the ASMs into cooperatives to easily regulate their activities.

Director of Mines in the Ministry Samuel Sakhuta told Mining & Trade Review in an interview that the Ministry has already facilitated the formation of 18 cooperatives in different parts of the country.

"Very soon we are going to license other three cooperatives, one in Mangochi, one in Kasiya, Lilongwe and the other one in Neno. These are going to be trained and this will increase the number of cooperatives from 18 to 21," says Sakhuta

He says the formation of cooperatives is assisting the Ministry to easily reach out to the miners to sensitize them on sustainable mining practices in accordance with occupational safety, health and environment regulations.

"We are trying our best so that we control this practice of illegal mining and make sure that the best methods and recommended tools are used," he says.

He says the Ministry is continuing its routine programme of training, teaching, advising, monitoring and inspecting the small scale miners on proper mining methods to minimize accidents that have also resulted in deaths in ASM hotspots.

"It is through these cooperatives that the Ministry is planning structured training. Our officers will continue training small scale miners on proper mining methods as they need to use recommended and appropriate equipment to minimize accidents associated with illegal mining," he says.

Malawi has over the years witnessed growth in illegal mining activities, which have seen hundreds of people venturing into small scale mining of gold and valuable gemstones, which has attracted buyers from different countries.

Due to lack of knowledge of sustainable mining practices, a number of fatal accidents including deaths continue to be reported in these mining sites notably Mangochi-Makanjira and Kasungu.

The activities have also been associated with smuggling as buyers from foreign countries who camp in the areas surrounding the ASM hotspots buy the minerals from locals at a very low price to smuggle to foreign markets to sell at a whooping profit.

The development prompted the Reserve Bank of Malawi through its subsidiary the Export Development Fund (EDF) to form a structured market for gold and gemstones to save the precious minerals from smugglers.

Sakhuta says Department of Mines (DoM) is working closely with the Ministry of Industry, Trade and Tourism (MoITT) in the formalization of the ASM sector which includes guiding them to sell the minerals to EDF market and not the foreign smugglers.

He says: "Our aim is to ensure poverty alleviation in ASM areas by making sure that the operators carry out their work using sustainable mining practices that protect their lives and

We also want to ensure that the miners make profits in the business for the sake of



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Sakhuta: We are working closely with Ministry of Trade

poverty alleviation and economic empowerment in ASM areas so that Malawi moves away from the current scenario where by ASM activities are carried out on subsistence basis. We want more ASMs to make profits that will assist them graduate into mechanized medium scale mining."

## **CSOs query new Mines Act** over secrecy provision

#### By Wahard BETHA

Civil Society Organizations (CSOs) working in the extractive sector under the umbrella of the Natural Resources Justice Network (NRJN) have questioned the inclusion of section 41, subsection 5 in the Mines and Minerals Act of 2023 saying it is promoting secrecy in the sector.

The Section states that 'unless otherwise specified in this Act, any information submitted by a tenement holder shall remain confidential for as long as the licence is valid and two years after the expiry or termination of the licence.'

In an interview, National Coordinator for NRJN Kennedy Rashid asked the Attorney General and Department of Mines who were part of the team drafting the Act to clarify why they have made mining information confidential and the implications to the general public.

Rashid stressed that keeping mining information, reports and data confidential is against transparency and accountability campaign as spearheaded by Malawi Extractives Industry Transparency Initiative (MWEITI).

He said: "Some of the actors in NRJN have been asking why mining information should be kept confidential while the Mines and Minerals Act vests mineral resources in the hands of the Republic on behalf of Malawians."

"What is required is for Government, specifically the Attorney General to be engaged to at least clarify the issues that surrounds Section 41."

"In the spirit of open government partnership as championed by our Head of State, one of the key sub themes under natural resources is that of transparency to which it is expected that Malawi is going to ensure that there is transparency and meaningful citizens participation.'

He also said some provisions in the Act look suspicious due to delays to operationalize regulations of the new Act.

Rashid said: "Since the Bill was passed and assented to, the Act has not yet been operationalized, so we hope it is operationalized as soon as possible with regulations that should clarify these issues."

"We need the regulations of the Act in order to learn how some provisions will be enforced."

Rashid said current global standards such as Free Prior and Informed Consent (FPIC) and the United Nations (UN) principles on Business and Human Rights give the state the responsibility to protect human rights including the public's right to acquire information on the country's mineral resources.

However, in her response, Public Relations Officer in the Ministry of Mining Tibonge Kampondeni said the Ministry has no intention to hide any mining information as it is at the forefront in encouraging mining companies to be transparent and accountable

Kampondeni said: "The Ministry has no desire whatsoever to hide information."

"Assure the concerned party that as a Ministry, we are and will continue doing everything possible to share information regarding mining in the country to the public.'

But Coordinator for Chamber of Mines and Energy Grain Malunga said mining information has been made confidential in the Act to protect the tenement holders.

Malunga said; "This propriety information arising from scientific research is meant for the tenement holder to make further decisions after favorable results are obtained."

"The information has a cost and if it goes into the wrong hands, there are fears of loss of tenure engineered by evil authorities."

#### MINING





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## **Elements of a Successful Mining Business Venture**

ining is a lucrative business such that many large, medium, small, junior companies and new investors are drawn towards mining all over the world. As a result, they may incur huge profits and expanding market shares that are further reported in Stock Exchange markets. Caution is also taken that some mining companies start very well and end up in a disaster because some elements of mining as a successful business were over/underestimated. A good and significant estimation calls for mining business opportunities that can be started in the nearest future.

Mining Business requires concerted efforts, commitment, passion coupled with detailed investigations to make informed decisions on whether to proceed with the business or not. The following are some crucial elements that can be considered before venturing into a successful mining business:

#### 1. Mining Business Commitment

Mining Business being complex, calls for processes that must be taken including but not limited to Decision Making, Mineral Discovery, Mineral Evaluation, Acquisition, Excavation/Mining, Processing, Marketing, Manufacturing & Mine Closure, and Mine Rehabilitation. This is sometimes referred to as the Mining Value Chain and one is reminded to know exactly where he is along the chain and will make decisions on how far to go in future. The next step is to check out whether the investor has the vision, passion, perseverance, finance and time to pursue mining business seriously.

#### 2. Decision on the mineral to Explore or Mine

The earths' crust is rich in mineral resources and only but a few are extracted for industrial use. Depending on the vision, financial potential and present stage in the mining value chain, the investor can choose which minerals/metals to extract. It is advisable for the investor or the company to choose a mineral that has a good market demand presently and beyond but should not be exhaustive in the shortest time possible. The issue of evolving industries and the driving commodities must also carefully be considered here.

#### 3. Decision on Mining Business

As an investor or a company, there is need to think if there is a possibility of going to be successful in Discovering, Evaluation, Acquisition, Excavation/Mining and Processing, Market or Manufacture of a chosen mineral. The company must be capable of meeting costs of the chosen stage and the potential risks associated at each stage of the process.

#### 4. Choice of the area to mine

Minerals are found across all over the continents. To start a mining business, a geographical location of an area is also important. The choice should be based on country specific mining legislations, flexibility/ease of doing business, logistics, human capital or manpower resources, infrastructure, Energy/power, security and marketability of end products. Considerations should also be based on whether the mining business is within the country/ continent or overseas.

#### 5. Choice (Greenfield or Brownfield)

Mining Business ventures can either be classified as Greenfield or Brownfield. Greenfield ventures are unexplored, as a result they are cheaper to acquire as they can hardly have any previous investments. Brownfield ventures require thorough due diligence to ascertain the mineral potential and hence expensive and time consuming but can smartly and quickly generate revenues.

#### 6. Acquisition/Partnership/Joint Ventures

Greenfield and brownfield mining business may be purchased, acquired or worked through partnerships. It all depends on the choice of the investor whether to engage a partner or run it sole. It must be noted that acquisition is driven depending on the mining laws of a specific country while partnership may be based on equity or on profit sharing. The investor must invariably study all these options to come up with a viable decision.

#### 7. Due Diligence

Any high value commodity should be studied, carefully assessed and looked at it if it is going to generate income by bringing profits. This is the same with minerals in a mining business. Mineral prospects are mostly lying unexplored underground. Sometimes acquisitions tend to be overrated in terms of pricing and partnership terms are written beautifully to attract entrepreneurs. Therefore site visits and due diligence must be conducted to evaluate the mining business opportunities to get a reasonably fair idea as to what the investor is getting into. A highly competent team of consultants must be engaged to carry out the Due Diligence Process and also some research is required. The investment could significantly be saved from future risks.

#### 8. Budgeting and Financing

To achieve a successful mining business it is better and important to interact/ seek advice from geology and mining experts before clicking the business on. Preparations of budget plans, financial capability/stand and development of a budget are of utmost significance to take care of expenses on site visit, consultants fee, data analyses and document purchase, exploration, mining licenses. Now, all the investor/company needs to do is start and take steps to turn the mining business into a reality.







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MINING





by Dr. Grain Wyson Phillip Malunga FIMMM Minerals, Geology, Environment & Corporate Affairs Consultant

#### Abstract

The economic impact of mining goes beyond mineral extraction and processing. Other industries are created and benefit activities such as transportation, construction, equipment manufacturing, environmental management, geological services, education and

Mining generates employment, government revenues, and opportunities for economic growth and diversification. Local communities share some goods and services with the mine through community development activities and trade.

#### Introduction

Mining value chain concept involves a range of primary activities that are responsible for the generation of value and a range of supporting activities that do not directly generate value but support the value generating activities.

Countries, such as China, have experienced economic transformation through diversified manufacturing industry arising from value chain and export of finished goods. All this has been possible through availability of cheap raw materials from Africa. It is possible for countries such as Malawi to discover and profitably exploit their mineral resources through promotion of investments related with mining value chain. This can be promote local content to supply goods and services for the development of the mineral

#### **Mining Value Chain**

Mining Value Chain (MVC) can be categorized in five segments; namely Exploration, Valuation, Mining, Beneficiation and Marketing. Exploration and valuation fall under primary activities, Mining and Beneficiation falls under Production and marketing falls under Demand. All these are supported by administrative infrastructure, human resource management and technology (Research and development).



Figure 1: Mine Value Chain

Mining is a long term investment undertaking (Figure 1) and if properly managed brings long term high returns both for the investor and government. Mineral resource development that promotes value chain brings with it employment, skills development, technological advancement and meaningful trade (market and sales). Employment and skills development help with sustainable development through poverty alleviation.

#### **Exploration**

- 1. Geological mapping
- 2. Pitting and trenching
- 3. Drilling
- 4. Reserve estimation
- 5. Prefeasibility study

Benefits that come with exploration include opening up of infrastructure in rural areas such as roads, water electricity, employment and skills transfer to local employees and to some extent corporate social responsibility that mainly deals with assistance with farm inputs, education materials and rehabilitation of water points such as boreholes.

- 6. Feasibility study
- 7. Social and environmental impact study

During valuation a lot of multidisciplinary tasks are undertaken and community engagement becomes a crucial part for obtaining Free Prior Informed Consent (FPIC) so that the project is accepted by the wider majority in the community. Professionals in the areas of geology, mining, metallurgy, mineral processing, economics and finance, and strategic environmental management are engaged. All these bring with them employment opportunities and the local community benefits in supporting the project with goods and services thereby opening further opportunities for trade.

#### Mining

1. Surface stripping or adit development

- 2. Drill and Blast (Ore and Waste)
- 3. Load and Haul (Ore and Waste)
- 4. Crushing
- 5. Ore Transportation to Mill
- 6. Ventilation and dewatering
- 7. Stockpile Store and Reclaim
- 8. Mine Services
- 9. Mine Administration

Mining comes with it a diversity of goods and services through contract management and transformation of rural areas to urban environment bringing new opportunities of economic activities. New schools are built and others improved, health facilities are upgraded or built, reliable infrastructure such as roads, water and electricity are provided and subsistence agriculture becomes commercial and profitable. Development and improvement in local content triggers industrialization to manufacture goods that are required in mines. Supply chains are developed and improved.

#### **Beneficiation**

- 1. Washing and Screening
- 2. Crushing, Grinding, Flotation, Thickening, and Filtration
- 3. Tailing Disposals
- 4. Mill Services
- 5. Mill Administration
- 6. Ore Stockpile and Reclaim

Beneficiation triggers economic activities that are also experienced in mining. Heavy industries in engineering and foundry sprout to support provision of spare parts, contracts in transport services are awarded, more technical jobs are available and value addition in minerals generate more revenue for companies and government while more employment and skills development and technologies are introduced.

#### **Concentrate Handling**

- 1. Slurry Pipeline Concentrate Transport
- 2. Concentrate Thicken and Drying
- 3. Stockpile Store, Reclaim

This chain promotes manufacturing of pipes for fluid flow and thick plastic sheeting and tarpaulin for containment of concentrates and prevention of polluting leakages.

#### Marketing

- Product Shipping
- Supports Administration and other direct operation costs are included
- Revenues from payable metals

Marketing generates information on product demand and value addition. Freight forwarding, insurance and logistics bring improved service delivery. Skills in procurement and supply logistics are developed.

#### **Negative Impacts of mining**

Poor governance structures in government and inadequate laws and regulations have negative impacts on mining economic growth. Resource curse comes in when there is lack of transparency and accountability on government revenues and poor contract agreement negotiations. Usually revenue from mining benefits a few people and the nation

suffers in managing its budget.
"Dutch Disease" can affect other manufacturing exporting industries when local currency value appreciates due to a strong mining sector. Other exporting industries become uncompetitive as their goods become expensive and these industries may suffer through low demand and low profitability.

Environmental laws need to be strong and sectoral institutions monitoring environmental programs in mining need to be adequately resourced and a responsible civil society helps in mediating on social environmental issues affecting local communities.

#### Conclusion

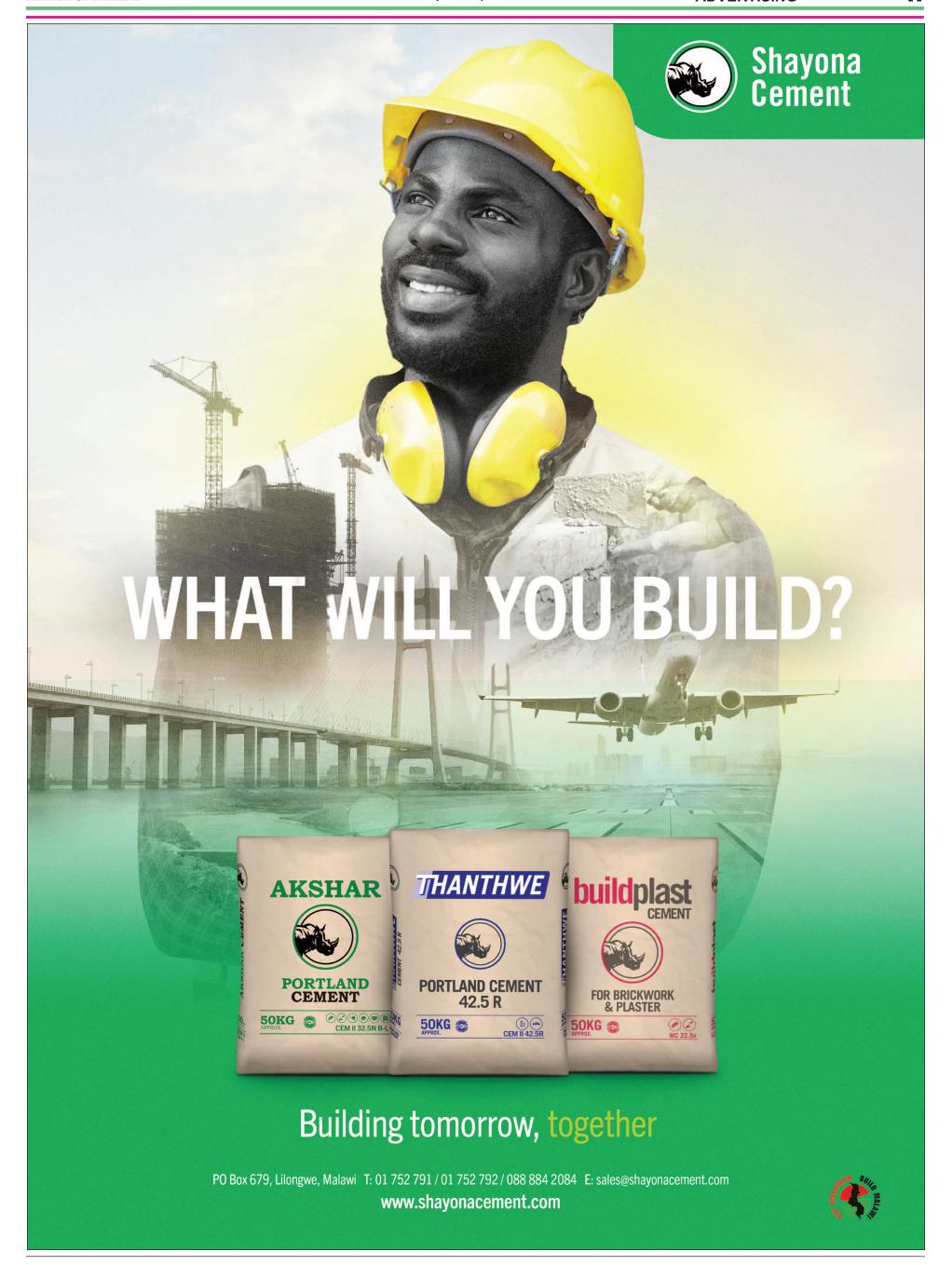
Our path to industrialisation and development should be rooted in the utilisation of agriculture and mineral resources to catalyse diversified industrial development. The country needs to promote local beneficiation and value addition of minerals to provide manufacturing feedstock and encourage import substitution of industrial mineral prod-

Local participation in supply of goods and services to the mining sector will create employment and wealth to breed vibrant financial institutions that will offer competitive services for further growth of the manufacturing industry. Properly managed mining value chain will support government and local communities through investment in economic activities that go beyond post mining

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# Shayona constructs stadium for Mwimila Community

#### By Christopher JIMU

mini stadium which Shayona Cement Corporation has constructed close to its factory in Mwimila Village, Traditional Authority Wimbe in Kasungu has brought huge smiles to the local residents as they are now able to watch competitive football games every week end.

The stadium, a brainchild of Shayona Cement MD Jitendra Patel, has cost the company K10 million and more will be spent as some works are yet to be completed.

Human Resource and Administration Manager at the Shayona Factory Austin Mvula confirmed the development saying a VIP stand has already been completed and that the football ground is now the centre of sporting activities for the communities.

Said Mvula: "It is true that we have constructed a mini stadium. This is part of our Corporate Social Responsibility (CSR) programme."

"Due to the terrain of the area, the football ground was constructed by excavating the land to a depth of six metres and also filling of more than 5 metres from the top in some parts of the ground in order to come up with a flat area."

"Those filled areas were properly compacted to ensure that rain water does not erode the

"Those filled areas were properly compacted to ensure that rain water does not erode the soil. On the other side of the ground, there is a shelter where chiefs and other senior citizens can sit during the games. It surely is the pride of the area as the problem of lack of a proper sporting arena has been eradicated."

Several members of the community including Ponsiano Kaomba, have appreciated the facility and thanked Shayona Cement Corporation for considering people first in its programs.

"We are very impressed with Shayona Cement Corporation. This football ground is modern and beautiful. Mwimila Village is now the centre of activities due to this. The football ground is now commonly referred to as the stadium in this area," said Kaomba.

In separate interviews, other five residents of the area said they are excited with the development as soccer is providing them with great entertainment every weekend.

Chrispin Chiwandama, himself a soccer fan from Wimbe, concurred with Kaomba saying that teams in the area will have no problems with football venues with the construction of the new stadium.

"We are very happy because of the new stadium. Shayona is indeed bringing development in this area. Besides the stadium, the Company is constructing new primary school blocks and providing learners with books. This stadium has proved to be a hit among the youth as well as the elderly because football unites everybody and is a source of entertainment," he said.

Another keen soccer fan Edwin Kalinde said he is excited with the stadium as he has a venue to go to every week end whenever there are games.

"This ground could not have been constructed at a better time. Everybody is keen to watch football and we are thankful to Shayona for the stadium. We hope the company will also buy football kits for teams around the area to make them look resplendent during games," said Kalinde.

Sosten Sawasawa, Maxwell Palije and Chisomo Kamwanje, avid soccer lovers concur with Chiwandama and Kalinde that the new ground is a very welcome development which will go a long way in taking the youth away from distractions like alcohol and drug abuse.

"These days many young men are engaging in immoral activities such as womanizing, drinking and smoking so by giving them a football pitch they will be spending their time profitably. We hope in the near future we will have national team stars coming from this area," said Kamwanje.

Shayona is implementing a comprehensive CSR program which has seen it spending nearly MK1 billion in the area in the year in CSR projects including constructing a modern bridge across the Livwezi river linking communities from both sides of the river.

The work has involved constructing two modern culverts and another smaller bridge for the community

"We have also constructed another bridge and a total of six other culverts on other two roads so as to ensure that there is unobstructed mobility between communities in the area that surround the Factory. Through the CSR program we are moving from being an entity that is merely business focused to becoming part of the development agenda of the nation," said Mvula.

Shayona Cement Corporation has also embarked on spot road rehabilitation works for the two access roads; one from Kalenga Trading Centre and the other main entrance road through Lupafya Trading Centre to the tarmac road.

The works are partly done by a contractor and an in-house team of civil engineers and



Stand at the stadium



School block constructed at Chigumba Primary School



Bridge constructed by Shayona

are supervised by engineers from the Roads Authority to ensure that they improve the condition of the roads to the required standards.

"The road woks are massive projects, all done with an intention to ease mobility for the community and particularly more so during the rains where roads become almost impassable," said Myula.

able," said Mvula.

Senior Group Village Head Mwimila hailed Shayona's CSR programs saying they are contributing massively to the development of the area.

"We are blessed to have Shayona Cement Corporation in this area. The Minister of Transport and Public Works Jacob Hara opened the other bridge in October this year and today we have the football ground, the numerous bridges and culverts under construction, the road works, the beautiful primary school consisting of 8 blocks of two classrooms each with a beautiful teachers' office block, and the Escom power connection project to my village," he said.



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