MACIG

THE OFFICIAL MINING IN AFRICA COUNTRY INVESTMENT GUIDE

2017

Welcome Note

Welcome to the fourth edition of the Mining in Africa Country Investment Guide (MACIG), which Global Business Reports (GBR) has been preparing with African Mining Indaba™ on an annual basis since 2014.

Once again, in 2016, we found the continent's miners struggling with difficult market conditions, though this year we could detect unmistakable traces of optimism. The worst, most miners that we met with on the continent agreed, is now passed. This year's small but steady increases in commodity prices and improving investor sentiment towards miners are exactly the tonic that the mining community has been yearning for. The industry, which in most cases has been preparing frantically for this moment, is slowly returning to health. With just this little bit more cash running through its veins, mining is rediscovering some of its vigor. Talk is of a 'New Normal', whereby few expect prices to return to 2012 levels, but those that have their mines, portfolios and operations in good order will be able to prosper in a more efficient, more competitive and perhaps more predictable market.

Predictability has long eluded Africa, where risks, of one sort or another, have always preoccupied investors. This year we are witnessing some development in this regard. Fortunately, this year Sub-Saharan Africa has been mostly spared from major disasters, either man-made or natural. Progress has been made in health, notably the brilliant work of the Gates Foundation in combatting tropical diseases and as well as efforts to control the HIV virus, and in politics, where there have been few major disruptions and a more stable environment prevails.

While private companies have been using the slowdown to improve efficiencies, Governments have generally been doing the same; improving legislation and governance in an effort to be well positioned for when investment in mining in Africa returns.

This year we have identified eight countries in three regions to explore. In West Africa, where we found miners the most upbeat, our reporters spent the first half of the year in this years darling, Cote d'Ivoire, and in Burkina Faso, which are competing for investment dollars targeting gold, for which this year has seen a revived appetite.

Meanwhile, in East Africa we explore Kenya and Tanzania. In Southern Africa our reporters spent the second part of the year in Zimbabwe, Botswana and South Africa. The latter and more mature mining countries have long been dependent on mining and have thus been particularly hard hit by the recent downturn. Similarly to major mining jurisdictions all around the world, redundancies have been numerous and all mines have been forced to re-examine their processes in order to control operating costs.

The Mining in Africa Investment Guide 2017 contains analysis of each of these countries from GBR, as well as assorted statistics, graphs and facts that we have complied during the year. Readers will also find quotes and interviews from the most influential figures in the mining industry for each of the countries covered, whereby the varied opinions of the most prominent stakeholders of the industry allow the reader an insight into the thinking of those already operating on the ground. We expect investment activity to revive this year, as companies that have been consolidating and weathering the storm once more begin scouting for growth opportunities and investor confidence in the mining business returns. We hope that this guide will prove and effective tool in helping investors to make informed and successful decisions and ultimately encourage more investment in Africa generally.

This report has a natural fit with Mining Indaba. Many people see the event as the barometer of the industry, being the continent's biggest mining event, the world's largest mining investment event and sitting at the beginning of the year. We have seen a real increase in the appetite for the event compared to 2016, which reflects the same feedback from MACIG of an industry cautiously growing, looking for investment deals and a desire for more exploration.

This year Mining Indaba has focused on the junior miners and making sure that the three main groups of delegates (miners, investors and government officials) have the right forums to connect and do business together, to ultimately drive investment into the African continent – again a shared objective of both parties.

You will see a lot of new features and formats around the event with the juniors and the three groups in mind – an expanded Investment Discovery Forum, the New Junior Mining Pavilion and Investment Battlefield which have all lead to a bigger overall attendance and a significant growth in the number of investors and mining companies. •

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For updated industry news from our on-the-ground teams around the world, please visit our website at gbreports.com, subscribe to our newsletter by signing up to our VIP list through our website, or follow us on Twitter: @GBReports.

Image: Perseus Mining

Image: Base Titanium

Image: Roxgold

Ministerial Interviews

Featuring interviews with ministry officials and leaders of companies operating in Africa

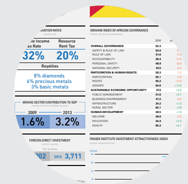
14, 24, 30, 38, 48, 51, and more

Editorial Content

GBR teams spend several weeks on the ground in each jurisdiction, creating a thorough analysis of the mining industry and its potential for foreign investors

15, 18, 25, 32, 44, 49, 68 , and more

Factsheets



Quantitative data is key in understanding the dynamics of mining jurisdictions. GBR presents the most accurate and detailed information about each jurisdiction.

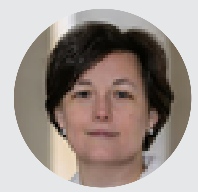
13, 22, 36, 40, 46 and more

Country Maps

Detailed geological maps, courtesy of SEMS Exploration allow investors to get a lay of the land from afar and reveal the complexity of each country's mineral deposits.

7, 13, 23, 35, 39, 45, 62 and more

Expert opinion articles



GBR invited leading professionals to comment on particular subjects in various jurisdictions to provide an in-depth technical outlook on different subjects.

20 and 31

The Official Mining in Africa Country Investment Guide, 2017

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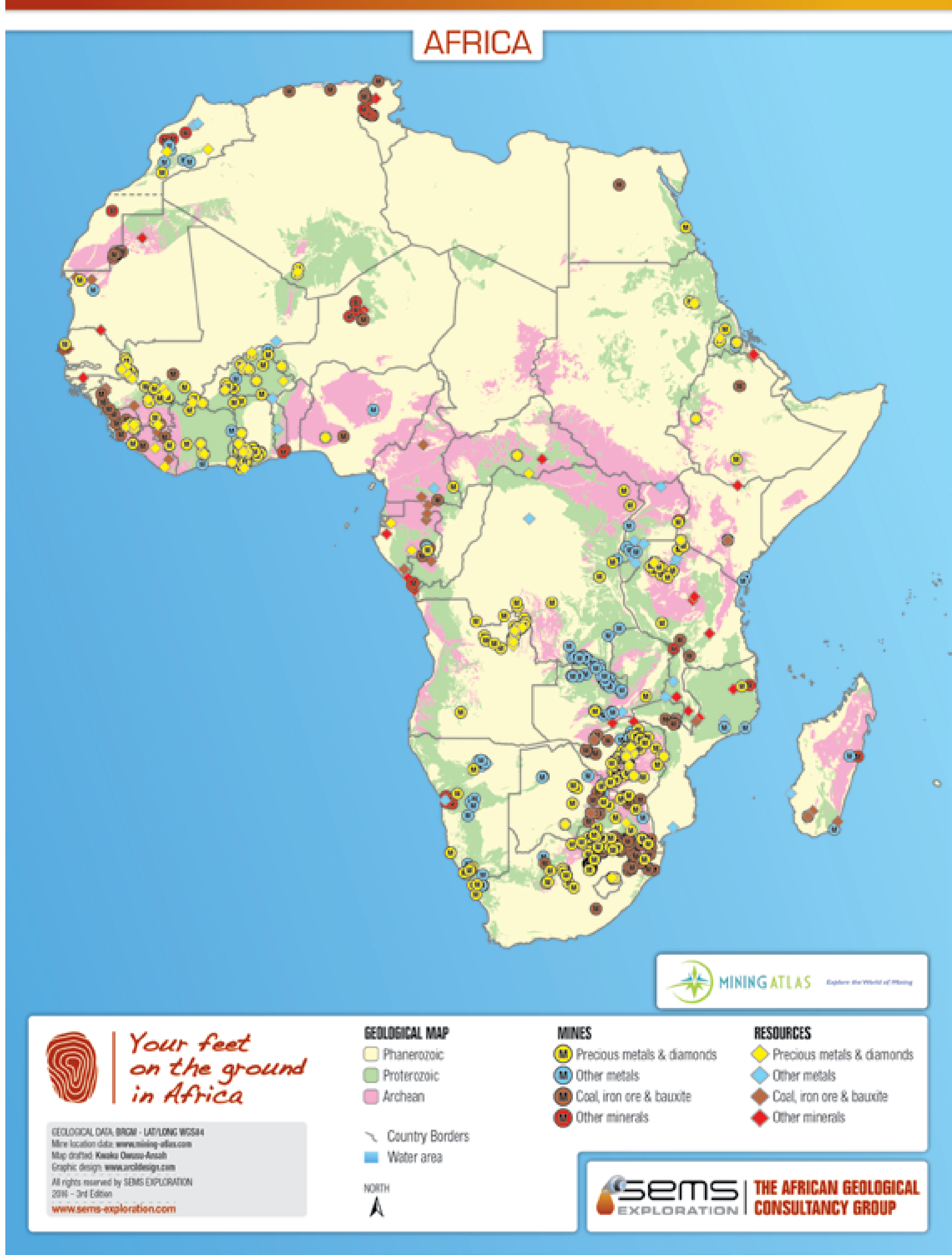
During 2016, Global Business Reports teams have again travelled the breadth of Sub-Saharan Africa visiting some of the continents most interesting mining jurisdictions and meeting with miners and related industries and institutions across the whole mining supply chain. Many of our reporters had never before set foot in Africa and to do so for a whole year may have seemed rather intimidating to them. Now, however, having been made welcome by so many industry professionals and officials, as well as the friendly faces that one encounters when travelling, eating or drinking anywhere across the vast continent, the GBR teams have developed a fond affection for the continent. Indeed, this being the fourth consecutive year that GBR has published its Mining in Africa Country Investment Guide (MACIG) with our partners at INDABA™, we now meet with more familiar faces that we look forward to seeing again in Cape Town at INDABA™ 2017. We wish to thank all of those that kindly took the time to meet with our teams and share their knowledge with us which we have endeavored to set out in the following pages alongside our own analysis.

This year, MACIG 2017 contains eight countries in three regions. We began our researches in West Africa, where, much to our delight, we could feel an infectious enthusiasm that has been sadly absent from miners globally for a good while. In Cote d'Ivoire in particular, and in Burkina Faso too, juniors are busily exploring and services companies gearing up their offerings in a manner that GBR has not witnessed anywhere in the world for a period of three or four years. These relative newcomers are eclipsing interest in the region's more mature jurisdictions, Ghana and Mali, where the sector remains somewhat depressed. Crucial improvements have been taking place in terms of political stability, infrastructure, legislation, education and health so that African jurisdictions are increasingly resembling those with which miners are more familiar with around the world.

In East Africa we visited Kenya and Tanzania. Once again, it is the newcomer Kenya, which remains unexploited and where mining activities currently only account for around 1% of national GDP, where we found the most optimism surrounding mining. For the first time since the 1940's, Kenya has passed a comprehensive new mining act in 2016 with the aim to encourage the industry, impose international best practice and ensure that the industry helps to sustainably develop Kenya's economy. In Tanzania, on the other hand, we found a mature mining jurisdiction reputed for its stability whose new government is determined to increase the contribution of mining to its economy, with the goal of mining activities accounting for 10% of GDP by 2025. But, by tinkering with regulations and taxes, and sending out confused and mixed signals, investors are currently cautious there. 2017 will be an important year during which the new government must restore the confidence of miners if Tanzania's ambitious goals are to me met.

In Southern Africa our reporters visited Zimbabwe, Botswana and South Africa; nations with a spectacularly rich geologically and well-known jurisdictions for international mining. The downturn has hit these countries particularly hard given their exposure to mining, constraining their GDP growth. Jobs in the sector have been lost as established mines look to restructure their operations in order that they can be sustainable under a lower commodity price environment. Whilst Botswana is limited in the changes that can be implemented because of its dependence on diamonds and an already very favorable regulatory and political environment, in South Africa and Zimbabwe miners feel that a lot can and must be done if those nations are to maintain their position as global mining destinations.

The following pages reflect the thoughts and views of the mining industry professionals that kindly shared their time with us. We wish to thanks them all and look forward to meeting with you at Cape Town at INDABA™ 2017. •



WEST AFRICA

"Côte d'Ivoire is relatively new to the mining business, but the government is very proactive and developing this sector and having zero tolerance towards illegal mining. Moreover, they make it easier for investors to understand how to do business in the country. We have a clear understanding of what is expected from us, which gives us a feeling of certainty about operating in Cote d'Ivoire."

- Jeff Quartermaine, Managing Director and CEO, Perseus Mining

Burkina Faso
Cote d'Ivoire
Ghana
Mali

Image courtesy of Rangold

West Africa

As a revival in the price of gold brings a shine to the smile of West African miners, the majority of whom rely on that bright metal, it is of interest to note the divergence of fortunes of the different nations in the region as they emerge from the gloom.

by Laura Brangwin,
Meredith Veit,
Catherine Howe

The Gold Coast has long been famed for its rich ores and, the Ashanti nation that became Ghana following independence from Britain in 1957, has led the development of the West African gold mining industry. Years of political stability led Ghana to become the darling of investors, attracting the doyens of gold producers, including AngloGold Ashanti, Gold Fields and Newmont Mining, who each contributed to make Ghana Africa's second largest gold producer, after South Africa.

Third rank on this list belongs to the former great gold-trading Saharan empire that is today Mali. After decades of political chaos following independence from France in 1960, Mali became a settled multi-party democracy in 1992, and its favorable investment regime and easy-to-access resources attracted explorers throughout the nineties, including IAMGOLD, Randgold Resources and, later, AngloGold Ashanti, Resolute Mining, Endeavour Mining and B2Gold.

During this period, the other two nations that are included in our research and which are presented in this report, namely Cote d'Ivoire and Burkina Faso, were both immersed in political and civil strife that deterred investors, producers and explorers alike. The wave of investment that engulfed their neighbors passed them by.

Today, this tide seems to have turned. While both Ghana and Mali retain their respective positions on Africa's gold producing nations table, operating conditions in both countries have worsened, while Cote d'Ivoire and Burkina Faso are both enjoying a new found political calm with reformed investment regimes and incentives that make their less-prospected terrains enticing bait for today's explorers.

"Ghana still has great exploration potential, but is overpriced relative to neighboring countries with excessive taxes and royalties. Nigeria has recently implemented a change in mining policy to attract investment, and is offering much longer tenure licenses and tax holidays. Most of Ghana's surrounding countries offer lower corporate taxes and royalties noting the large capital and time required to make a new discovery and bring it to production. There has been some recent movement in Ghana to reduce royalties and taxes for a couple of the major companies, but it would be helpful if they could follow suit for the smaller companies which are the engines of new discoveries and mines," explained Douglas MacQuarrie, president of Asante Gold Corporation.

Indeed, the country's maturity may be part of the problem. The fabled Ashanti Belt is well explored and juniors are placing their resources into less developed areas that offer greater incentives, such as Ivory Coast and Burkina Faso.

Mali, meanwhile, still offers considerable untapped reserves and low operating costs but is plagued with insecurity. A separatist uprising by the Tuareg and Islamic militants seizing swathes of territory and conducting a siege of a hotel in the capital Bamako in November 2015 have all dented Mali's reputation with investors and made much of its territory dangerous to operate in.

Nevertheless, most of Mali's mines are in the southern and more secure part of the country and, as in Ghana, the revival of the gold price has bought respite. Established mines in both jurisdictions are mostly now working at full capacity and many improvement and expansion projects, that had been put on hold, have since been revived. Elections this year in Ghana, it is hoped, will clear the air and Mali is struggling with the help of France to restore security.

But the excitement surrounding the new comers is what is drawing most of the interest towards the West African region. The high-grades, easy access, favorable climate and flat terrain of Burkina Faso allow for lower production costs. Gold producers, including Endeavour Mining, Perseus Mining, Teranga Gold and Centamin, are scrambling for assets in a frenzied flurry of mergers and acquisitions. Cote d'Ivoire, meanwhile, seduces miners with ample virgin terrain along the Birimian Greenstone Belt, its recent large-scale regulatory reforms, the most effective governance of the region and superior infrastructure along with a better-educated workforce. So far it is the companies already present in the region that are seizing the opportunities; the advantage of First-Mover still applies.

In the wake of the explorers and producers come the service providers. Sahara Mining Services has set up offices in Ghana, Burkina Faso and Cote d'Ivoire: "Sahara wants to become the mining services company of choice for West Africa. We are serious about providing high quality international services locally and want to expand our new services in security, geotechnical, hydrogeology and surveying. We also want to establish solid relationships with our partners to upskill our local staff to benefit from our partners international experience. We are establishing solid relationships with the government departments and local stakeholders to ensure we establish a long and sustainable future, not only for the Sahara team, but for mining in West Africa in general. We also want find a few more gold mines for our clients!" said Beau Nicholls, CEO, Sahara Mining Services.

The optimism on the ground is infectious and, while many investors remain shy of mining, and of West Africa in particular, our visit to Cote d'Ivoire and Burkina Faso left us convinced that, whilst these nations missed the last great wave of mining investment due to their political problems, they are determined to catch the next one. In the words of Jeff Quatermaine, managing director and CEO of Perseus Mining, who operates in both countries: "Investors have a renewed interest in the mining sector on a global level. However, they are not yet ready to pour money into the marketplace because there is still a residual negative feeling, especially towards West Africa, from the last bull market. That being said, companies such as Perseus and Endeavour might be in a position to change the situation, as we were successful in advancing our projects. Investors will certainly come back to West Africa, but perhaps not just yet."

The greatest challenge faced by juniors is funding. Despite a large amount of money flowing into exchange-traded funds (ETFs) and mid-cap gold producing companies, juniors are considered higher risk. "Lack of funding is our greatest barrier," noted Douglas Macquarrie, Asante Gold's president. "I actually see much higher risk in the majors, which have limited upside and much farther to fall. For a major to double their share price, they would have to discover and produce a much higher quantity of gold – a double is much easier for juniors."

As more success stories, such as those achieved by Perseus Mining and Randgold, unfold, it is certain that investors from the world's mining centers will lend greater attention to the region. The following report is intended to help the mining community to better understand this exciting region and the opportunities and challenges that lie therein. •

Burkina Faso

Population: 18,931,686
Land area: 274,200 km2
Official Language: French
Chief of State: President Roch Marc Christian KABORE (since 29 December 2015)
GDP (PPP): $30.88 billion
Growth Rate: 4%
GDP per Capita (PPP): $1,700

SOURCE: CIA WORLD FACTBOOK

TAXATION RATES

SOURCE: PWC

Corporate Income Tax Rate

17.5%

Royalties

3% to 8%

MINING SECTOR CONTRIBUTION TO GDP

SOURCE: AFRICAN ECONOMIC OUTLOOK

2014

14%

FOREIGN DIRECT INVESTMENT

SOURCE: UNCTAD

FDI, $ millions

2014	2015
357	167

MINERAL PRODUCTION (2014)

SOURCE: British Geological Society

Gold	37,200 kg
Silver	60,000 kg

BUSINESS ENVIRONMENT RANKING IN AFRICA (OUT OF 48)

SOURCE: WORLD BANK

	2015
Ease of Doing Business	20
Starting a Business	7
Dealing with Construction Permits	4
Getting Electricity	42
Registering Property	25

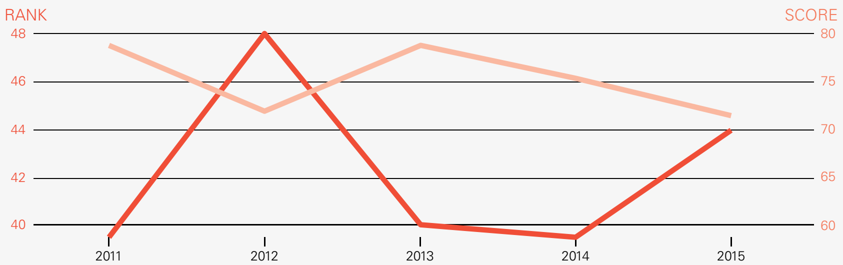
IBRAHIM INDEX OF AFRICAN GOVERNANCE

SOURCE: MO IBRAHIM FOUNDATION

	2016	change since 2006	Africa average	Rank / 54
OVERALL GOVERNANCE	**51.8**	+1.0	50.0	23
SAFETY & RULE OF LAW	**57.0**	-4.6	52.1	24
RULE OF LAW	**54.2**	+3.4	52.7	27
ACCOUNTABILITY	**48.0**	+0.3	35.1	13
PERSONAL SAFETY	**42.4**	-17.9	45.7	34
NATIONAL SECURITY	**83.4**	-4.1	75.2	25
PARTICIPATION & HUMAN RIGHTS	**57.6**	+1.5	50.0	22
PARTICIPATION	**52.0**	-3.9	47.9	27
RIGHTS	**65.8**	+7.8	46.8	9
GENDER	**55.1**	+0.7	55.4	30
SUSTAINABLE ECONOMIC OPPORTUNITY	**44.8**	+0.3	42.9	27
PUBLIC MANAGEMENT	**52.3**	-1.1	42.2	12
BUSINESS ENVIRONMENT	**44.3**	+0.3	39.7	24
INFRASTRUCTURE	**24.6**	-2.3	39.1	42
RURAL SECTOR	**58.1**	+4.3	51.5	17
HUMAN DEVELOPMENT	**47.8**	+6.7	55.0	41
WELFARE	**46.7**	+2.5	47.4	30
EDUCATION	**31.1**	+7.3	47.9	48
HEALTH	**65.6**	+10.4	69.6	39

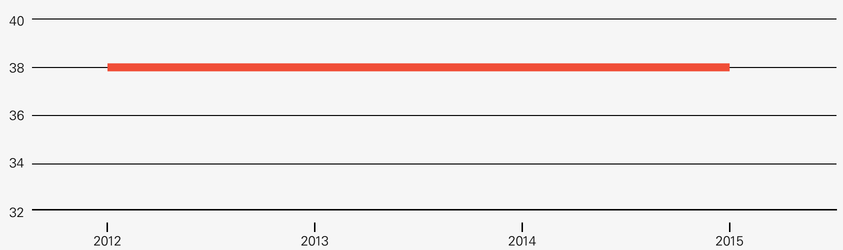
FRASER INSTITUTE INVESTMENT ATTRACTIVENESS INDEX

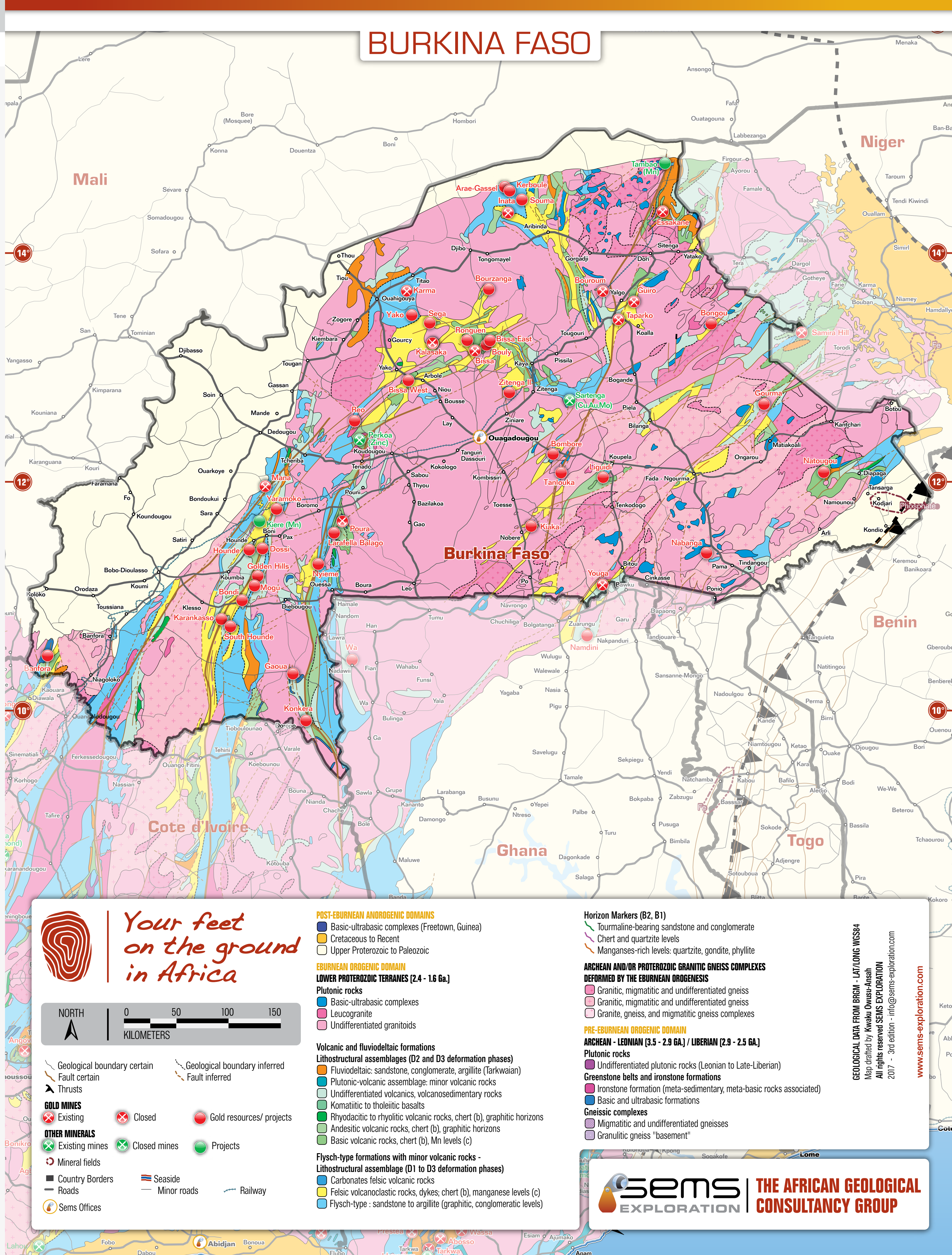
SOURCE: FRASER INSTITUTE



TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTIONS INDEX

SOURCE: TRANSPARENCY INTERNATIONAL





Bruno Lemelin

General Manager, IAMGOLD Essakane SA

Since acquiring Orezone Resources in 2009, can you provide a brief history of the Essakane project's evolution?
Essakane was acquired by IAMGOLD in 2009 and we started production in July 2010. With the construction of the project and the expansion costs, IAMGOLD has invested more than 900 million Canadian dollars (CAD) in the country, of which the expansion costs was approximately 400 million CAD. The Essakane mine's total gold production is currently at over 400,000 gold ounces per year, and is thus an incredible asset.
Essakane is a strong cash flow contributor for IAMGOLD as well as for Burkina Faso. Since the beginning of Essakane's operations, we have contributed 527 million CAD in taxes and royalties to the government. In terms of indirect contribution, we have a strategy for developing local procurement in-country and each year, we purchase approximately 244 million CAD in the local and national economies. We try to favor the local dynamic and sustainably contribute to economic development around the mine.
As we are an industry with non-renewable resources, it is important for IAMGOLD to leave behind a positive legacy in our countries of operation. Of our 2,200 employees, 95% are local nationals and only 5% are expats. Ten percent of our employees are female and half of them are in non-traditional positions. We offer leadership plans as to promote local nationals and develop a whole new generation of leaders. Essakane is the biggest mine in Burkina Faso in terms of gold production, and we aim to have a positive impact on developing people as well as small and medium enterprises.

In 2015 Essakane celebrated its second year of record production. What percentage of total IAMGOLD production is achieved through Essakane?
The record production can be attributed to our discipline in health and safety. In 2015, we also achieved a health and safety record due to a 25% reduction in incidents and injuries. To achieve a positive and efficient production, we firstly ensured that the foundation of our company was safe and secure for our people. By creating a safe working environment, productivity will surely follow. We have team sessions with stretching sessions in the mornings for all of our employees. In these sessions, we also talk about operational and risk conditions in the field, as communication is key for reducing risk and increasing productivity.
In terms of production, we developed last year a new zone called Falagountou, which has helped us in securing more saprolite material. This material is softer in nature than hard rock mining and has helped to increase the throughput and the grade at the mill. In 2015, we produced 426,000 oz of gold, of which 90% is attributed to IAMGOLD and 10% is attributed to the government. In 2016, we expect to produce between 365,000 oz and 375,000oz that will be attributable to IAMGOLD.

What performance improving initiatives is IAMGOLD making in order to reduce cost and improve gold recovery?
IAMGOLD's experienced engineering team continuously reviews and improves our mining plans. For continuous improvement, all departments are involved in a thorough process to bring the cost structure down and improve productivity. When we demonstrate that we have achieved the entitlement of a certain process and if a value proposition supports it, we then invest in capital projects to further increase production and efficiency.
For example, we have completed the installation of an intensive leach reactor, which helps in increasing gold recovery. This reactor was commissioned in August 2016. We have also invested in a carbon fines incinerator, which helps us to extract small amounts of gold in the carbon fines that are otherwise difficult to extract. We expect a payback on both these investments in approximately one year.

To what extent does Burkina Faso's lack of infrastructure hike Essakane's production costs?
IAMGOLD is entirely autonomous in terms of power generation as we are not connected to the national power grid. Thus, we have a 55MW thermal plant that is running on fuel. From this plant, we will ensure that we have enough power that is required for our production and represents about 35% of our costs. We also look at solar energy to decrease our carbon footprint. The government has been very supportive in making sure that we have the resources that we need for infrastructure development. We also work with SONABEL to provide electricity to the villages surrounding the mine. IAMGOLD aims to be a positive partner to the government in helping them to develop infrastructure in Burkina Faso.

What strategic exploration or acquisition projects are currently underway to increase IAMGOLD's reserves and resources?
IAMGOLD has an exploration permit surrounding the Essakane mine. Our aim is to extend the life of mine which will currently end in 2024. We have close to 1 billion CAD in installed capacity at Essakane mine and we will use that capacity to prolong the life-of-mine as much as possible. Extending the life-of-mine will not only benefit IAMGOLD, but also the employees and the economy of Burkina Faso.
In terms of production, Essakane is a strong contributor to IAMGOLD and we strive to continue playing a large role in developing the capacity of the country. •

High Grades and High Hopes

Burkina Faso's Golden Promise

Though international perceptions of the country have wavered, Burkina Faso has consistently remained one of the top five gold producers in Africa since 2012. With a currently calm political environment post-transitional government, over 300 prospective licenses still available, and companies such as Roxgold intersecting 52 grams per tonne (g/mt), Burkina Faso is posited as a top mining investment destination for the coming year. Having a less diversified economy, Burkina Faso has dedicated itself to mining over the course of its recent history. Over the past decade, more than nine new mines have come online, and mining entities were largely unaffected by the uncharacteristic violence that occurred in 2014. "The higher gold price in 2016 means renewed investor confidence, and exploration and project development has really picked up," stated Mark Benning, divisional director of AEL Northwest Africa.
Burkina Faso is landlocked, surrounded by Mali to the north, Niger to the east, Benin to the southeast, Togo and Ghana to the south and Cote d'Ivoire to the southwest. Sharing a similar geology to the second and third top gold producing countries Ghana and Mali, Burkina Faso has a flatter terrain with an

"Building good relationships with the communities and ensuring peace is critically important for any mining venture and we continue to give priority to local recruitment. We also chose to get involved at an early stage in community capacity-building and social investment. This resulted in resounding and unanimous support from traditional leaders who, in turn, influenced their people in our favour.

- Andre Bayá,
General Director,
Roxgold"

> "Three years ago we decided to diversify our business into more sustainable areas and away from post-conflict zones. We also pay more attention to facilities management projects across Africa. Moving towards the mining industry was a logical step for us, as we already had all the requested services in our portfolio and had an extensive experience working in remote areas in Africa."
>
> - Lars Narfeldt , Director, RA International

amiable climate, making it easily accessible and less expensive for achieving production. "Burkina Faso is a perfectly benign place to operate in; it is friendly, safe, relatively low cost to explore, and very amendable to our West Australian exploration style," stated Paul Roberts, managing director of Predictive Discovery, which holds 13 exploration permits within the country.

Movement from the Majors

The environment is also one of mergers and acquisitions, as purchases and partnerships seemingly change the market dynamic monthly. Endeavor Mining recently bought True Gold, Perseus Mining has acquired Amara Mining, Teranga Gold purchased Gryphon Minerals, and Centamin gained Ampella. Gold producers are taking advantage of healthy balance sheets and stronger cash flow via diversification of their portfolios, and notably, expansion in Burkina Faso.
MNG recently entered the country through the purchases of the Youga mine from Endeavor and the Balogo project from Golden Rim Resources. Upon acceptance of their permit, the Balogo project is expected to reach production before the close of 2016, adding yet another producing mine to the country's export capacity.

Meanwhile, Vital Metals are busy exploring and are upbeat about their prospects. Mark Strizek, managing director, said: "Vital Metals views Burkina Faso as a key asset within our exploration portfolio. When considering the exposure of Birimian greenstone, although a number of mines have come online in the last ten years or so, it still remains a very unexplored province. The excitement is in trying to find an "elephant" deposit, of which Burkina Faso has thrown up many, with still more to come. Our target is to grow and add value to the company by discovering a multimillion-ounce resource".
Vital Metals has already drilled its Kollo gold project with encouraging results.
After its first gold pour in May, Roxgold formally inaugurated its Yaramoko mine on 7th July 2016, bringing Burkina Faso's only underground gold mine into fruition. "We have been producing more than anticipated. We are presently pouring over 10,000 ounces (oz) of gold per month. Our feasibility study had assumed a gold recovery of 96.9% but our processing team have been able to exceed this figure, even attaining 99% recovery in August," noted André Baya, general manager of Roxgold Sanu. "When we requested our mining permit, we had conservatively calculated for 10 years, but with our present performance and ongoing exploration, it

is highly probable that we shall extend production to 20 years or more."
As of August 31, 2016, the mill feed grade remains a rarely impressive 15.44 g/mt of gold.
The Inata mine remains in the hands of Avocet, and Taparko and Bissa with Nordgold. The Bissa mine is undergoing expansion by means of a heap leach operation at the nearby Bouly project. CEO Nikolai Zelenski stated: "This will confirm Nordgold's position as the second largest gold producer in the country, with total production of approximately 400,000 ounces per year (oz/y). West Africa, and Burkina Faso in particular, is one of the few places in the world where it is still possible to find high quality gold deposits, often at reasonable valuations."
Vincent Morel, exploration manager of West African Resources, would agree, as their Tanlouka gold exploration project has intersected "extremely high grades over the last few months," and they have increased their resource statements to nearly 650,000 oz indicated at 1g cut-off, significantly greater than what was previously announced in 2015.
With an exploration budget of $20 million, SEMAFO is intent on expanding while managing its current five projects within Burkina Faso, which exist at a range of stages, from their producing Mana mine, to the new Natougou project that has commenced construction. "SEMAFO has been quite aggressive in exploration over the last year," said David Lalonde, exploration deputy manager of SEMAFO. "We do not have any projects in the northern part of the country close to the border of Mali, and we do not wish to explore in that area. Our Natougou project is near the border of Togo, Benin and Niger, and fortunately the most problematic issue is small banditry and roadblocks."

Managing Security

Security tensions are concentrated in the north, predictably alongside turbulent borders. Travel warnings and security restrictions have kept some expatriate management from entering contracted work zones in this area, and skilled, local employees are left with the tasks at hand. "The business climate here is favorable thanks to the government; however, the continuing threat of terrorist attacks does make business difficult for us in certain areas of Burkina Faso, especially near the borders of Niger and Mali. There are many mines in these areas but they are within a red zone for foreign nationals, meaning that we can only operate in these potentially very profitable areas in a limited capacity," explained Pierre Fonkenell, director of Burkina Equipment. "I don't see any improvement to this situation in the coming years, meaning a dependably increased operational cost."
Within the central and southern regions of the country foreign nationals continue to conduct business as usual. The terrorist attack in the capital city of Ouagadougou in January of 2016 shows that Burkina Faso is a risk prone destination, similar to most other capital cities around the world given terrorism's sporadic presence in developed and underdeveloped nations alike. Preventative solutions include greater reliance on technological integration. Sahara Mining Services was the first to bring drones (UAVs) to West Africa, as well as develop an alert system called De-Risk which consolidates data from multiple parties for intelligence mapping. "This system allows you to go into Google Maps on your smartphone and see if anyone has been robbed on the road you are about to take or warns of any terrorist activities in the region," explained Beau Nicholls, CEO of Sahara Mining Services. "The system is very powerful and will make West Africa a safer place to live and work."
Sahara has the largest fleet of auger drills in West Africa, but diversified its operations during the exploration lull of the past few years. •

Driving Local Content

"The availability of services is key, and they are becoming increasingly easy to source in Burkina Faso. A little more needs to be done in terms of the availability of equipment like dozers, but overall the market is pretty positive."

- Mark Strizek, Vital Metals

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Though IAMGOLD's Essakane project lies in the more dangerous north, it continues to push production levels to new heights. "In terms of production, we developed a new zone called Falagountou, which has helped us in producing more satellite material," explained Bruno Lemelin, general manager of IAMGOLD Essakane. "This material is softer in nature than hard rock mining and has increased the throughput and grade at the mill."

In 2016, IAMGOLD is set to produce above 405,500 oz, but their true impact is that of their contribution to Burkina Faso's economy. IAMGOLD's initial task upon creating the Essakane mine was relocating over 13 villages. Presently, IAMGOLD is the largest private sector employer of the country, excluding its employing many locally owned suppliers and service providers. L'Alliance des Fournisseurs burkinabè de biens et Services Miniers (ABSM) was created in 2009 by IAMGOLD, the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) and the Canadian embassy in conjunction with the Burkina Faso government as a means of organizing and better integrating local supporting businesses.

Within the long list of established Burkinabe ABSM companies, the story of Lochim Logistics is exemplary of successful cohesion between private, public and native entities in the assurance of locally experienced ROI. A former logistics coordinator of the Essakane mine, Loze Traore, took advantage of both his experience with IAMGOLD and keen insights on the impending mining legislation changes. "I attended the meeting at the Chamber of Commerce where officials discussed prohibiting multinationals from ordering directly from manufacturers," said Traore, "Thus, I picked niche products, which are lubricants and greases for mining machines, and sought out the manufacturers one by one to establish partnerships."

Positioning himself as the only means of entry to the Burkina Faso mining market, Lochim Logistics was created. The company has since evolved to include chemical products, aerosols, activator carbons, and more, and is opening offices in South Africa and Canada.

Mineral Resources Services, a Burkinabe geo-services company, is also profiting from the increase in demand for local content. "We are currently conducting a power drilling campaign for SEMAFO as they prepare to bring a new mine online in 2018," stated Amadou Maman, geologist and general manager of Mineral Resources Services.

With three power auger drilling machines, Maman plans to increase their capacity to 20 auger drills and diamond drilling rigs in the short term. "The dark clouds of the past few years have cleared, and we are optimistic about how the mining sector, and our business, will develop," Maman said, in reference to the increase in gold prices and investor confidence in his country.

The Challenge of Change

While the new mining code placed greater regulatory emphasis on maximizing local content, bureaucratic idiosyncrasies still hamper fluidity. "Burkina Faso is struggling to provide an efficient mineral tenure system. This is mostly due to the political transitions of the last two years that have resulted in several changes to the mineral tenure administration systems and personnel," explained Simon Meadows Smith, managing director of SEMS.

The changes in government and legislation resulted in some systematic errors and disagreements that are still in the process of being resolved: "For example, one of our mining clients is struggling with tax regulations in relation to their use of water," said Emmanuel Yonli, partner at SCPA KAM & SOME law. "This particular company had a water usage tax exemption from the previous government, but the current government wants to repeal the exemption considering the fact that, legally, all entities should be taxed based on water consumption."

SCPA is not fighting the repeal of the exemption, but rather that the company not be liable for past taxes under the previous administration. SCPA has evolved its practice in accordance with the mining code changes over the years, and are optimistic about how the changes will evolve once the initial kinks have been smoothed. The code's newly enacted anti-corruption law aims to bring greater transparency and clarity to the governance of the industry, enacted in collaboration with a firm increase in state revenues and a non-wavering obligation for mining companies to protect human rights.

Mining as a Means of Moving Forward

In the grander picture, Burkina Faso is following the trend of other African nations to improve upon both mining regulation and implementation in hopes of sustainable economic growth. During the West African gold mining boom of the early 2000s, Burkina Faso did not take part due to its less attractive fiscal policy, but the government has properly realigned its priorities to ensure this mistake is not repeated during the next gold price hike. "As we come out of the global financial crisis, investors everywhere are gazing at Africa. I think this is our time, and it is our chance to bring Africa out of poverty," stated Bassole Boubacar, director general of Sorexmines.

Burkina Faso is one of the world's poorest countries, ranking 183rd out of 188 countries in the Human Development Index. Approximately 45% of the population lives on less than $1.25 per day, which is why integrated training, education, and knowledge transfer are offers more valuable than gold for the Burkinabe people. "If a company invests in corporate and social responsibility, they can be assured that conflicts will be avoided. The local people in Burkina Faso are very honest and hardworking," said Grant Palmer, country manager of Geotech Drilling.

Steadfastly and unwaveringly, Burkina Faso is vamping up its stature as a mining destination investors cannot ignore.•

The incentives offered by Burkina Faso Mining Code to foreign investors

SCPA KAM & SOME

SCPA KAM & SOME AVOCATS ASSOCIES

The mining industry is one of the critical sectors in which Burkina would like to attract foreign direct investment (FDI). Therefore, a key strategy is to promote itself as a favourable destination for FDI. To this end, the mining code offers guarantees and advantages to investors, be they nationals or foreign. This article intends to briefly present some of these incentives to foreign investors. Section one deals with the guarantees (I), and section two presents some operational advantages (II) offered to attract foreign investors.

I- THE GUARANTEES OFFERED

1. The guarantee of National treatment

Mining titles, which are pre-requisite to conducting mining activities, are granted to national and foreign investors under the same conditions thus devoting national treatment to foreign investors. Research permits are granted to any natural or legal person applying in accordance with the mining regulations. An exploitation permit is granted by right to those who comply with obligations under the exploration permit and that have submitted an application consistent with the regulations at least three months before the expiry date of the exploration permit.

Moreover, a fully foreign owned company is allowed exploration permits. However, the State is entitled to the ownership of 10% of the share capital of exploitation companies. As a result, in practice, mining companies in Burkina are foreign owned with the State ownership of only 10% of the share capital.

2. The guarantee against unlawful taking of property

Burkina's mining code contains provisions against unlawful expropriation. Therefore, mining facilities and extracted substances may be expropriated only for public interest, subject to fair and prior compensation established by agreement between the parties or by an arbitral or ordinary tribunal. In addition, respect of due process before withdrawal of mining titles is guaranteed. Mining titles may be withdrawn for limited violation of the mining laws. However, withdrawal may only be performed following sixty days formal notice has been given to the holder of the title without effect.

3. The guarantee of international arbitration

International arbitration for the settlement of disputes stemming from the investment between investors and the State is allowed. Burkina Faso acceded to the New York Convention on the Enforcement of Foreign Arbitral Awards on 23 March 1987.

II- THE ADVANTAGES DURING OPERATION STAGE

During operational phase, Burkina's mining law offers a stabilised customs and tax systems (1) and the right to transfer funds on fairly flexible terms (2).

1. The right to a stabilised special customs and tax regime

Ordinarily, companies are liable to Corporate tax, Value Added Tax, Minimum Flat-rate Perception, Patent, Employer and Apprenticeship Tax, Registration dues, Tax on the income of securities, Property tax, Withholding Tax, Property in Mortmain Tax, Statistical Royalty, Community Solidarity levy and Community Levy.

A special tax and customs system are granted to mining investors during exploration activities and construction of the mining facility. Hence, during the research and pre-operational work stages, companies are exempted from tax payment except for Property in Mortmain Tax, Statistical Royalty and Community Levies. Concerning the customs system, the equipment, raw materials and other materials to be used for research activities and which have to be imported for the implementation of the research program are subjected to customs duties at a preferential rate.

During the exploitation period, the exploitation permit holder is exempted for seven years from Minimum Flat-rate Perception, Patent, Employer and Apprenticeship Tax, and Property in Mortmain Tax. In respect of Tax on the income of securities, the exploitation permit holder is liable to the rate of 6.25% as compare to 12.5% for the ordinary tax regime. The equipment, raw materials and other materials to be used for exploitation are subjected to customs duties at the preferential rate of 5% instead of 20% for the ordinary customs system.

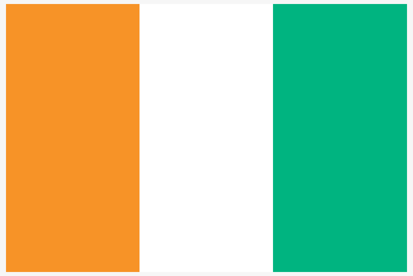
The mining code guarantees the stabilisation of the tax and customs regime. Thus, the tax and customs regime remains the same throughout the validity period of the permit. The investors may not be penalised by any change which may entail tax increase.

2. The right to transfer funds with fairly flexible terms

Foreign investors are allowed to transfer any funds associated with an investment, including dividends, receipts from liquidation, the sale of their assets. Their expatriate staffs may freely transfer their salaries to their countries of origin. Investors may be allowed to open an offshore bank account or local foreign currency bank account to be used for their operations.

In conclusion, it appears from the foregoing that Burkina Faso's mining code offers guarantees as recognised in international law on foreign investment to protect foreign investors and operational incentives with the view of creating an attractive investment climate for foreign investors in its mining industry. •

Cote d'Ivoire



Population: 23,295,302
Land area: 322,463 km2
Official Language: French
Chief of State: President Alassane Dramane OUATTARA (since 4 December 2010)
GDP (PPP): $78.62 billion
Growth Rate: 8.6%
GDP per Capita (PPP): $3,300

SOURCE: CIA WORLD FACTBOOK

TAXATION RATES

SOURCE: PWC

Corporate Income Tax Rate

25%

Royalties

3% to 6%

MINING SECTOR CONTRIBUTION TO GDP

SOURCE: AFRICAN ECONOMIC OUTLOOK

2009	2013
1%	1%

FOREIGN DIRECT INVESTMENT

SOURCE: UNCTAD

FDI, $ millions

2009	2014
–	–

MINERAL PRODUCTION (2014)

SOURCE: British Geological Society

Gold	17,000 kg
Diamonds	1,074 carats

BUSINESS ENVIRONMENT RANKING IN AFRICA (OUT OF 48)

SOURCE: WORLD BANK

	2015
Ease of Doing Business	18
Starting a Business	5
Dealing with Construction Permits	45
Getting Electricity	13
Registering Property	16

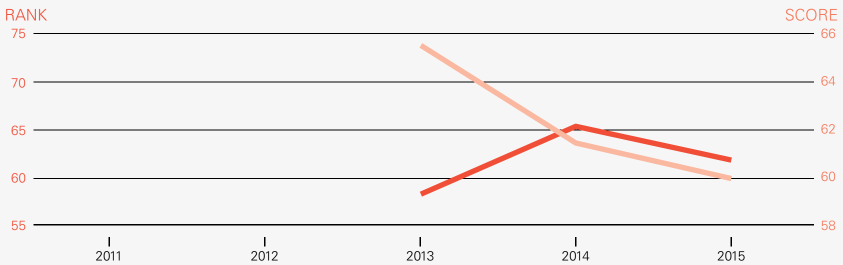
IBRAHIM INDEX OF AFRICAN GOVERNANCE

SOURCE: MO IBRAHIM FOUNDATION

	2016	change since 2006	Africa average	Rank / 54
OVERALL GOVERNANCE	**52.3**	+13.1	50.0	21
SAFETY & RULE OF LAW	**55.1**	+17.3	52.1	27
RULE OF LAW	**42.1**	+13.5	52.7	38
ACCOUNTABILITY	**44.1**	+25.0	35.1	16
PERSONAL SAFETY	**54.9**	+16.6	45.7	18
NATIONAL SECURITY	**79.4**	+14.3	75.2	31
PARTICIPATION & HUMAN RIGHTS	**54.3**	+18.6	50.0	25
PARTICIPATION	**61.5**	+36.5	47.9	23
RIGHTS	**49.5**	+19.3	46.8	30
GENDER	**51.8**	-0.2	55.4	34
SUSTAINABLE ECONOMIC OPPORTUNITY	**48.4**	+8.7	42.9	15
PUBLIC MANAGEMENT	**46.0**	+6.2	42.2	20
BUSINESS ENVIRONMENT	**55.6**	+13.3	39.7	8
INFRASTRUCTURE	**53.5**	+11.6	39.1	11
RURAL SECTOR	**38.5**	+3.6	51.5	45
HUMAN DEVELOPMENT	**51.4**	+7.8	55.0	35
WELFARE	**40.0**	+12.1	47.4	39
EDUCATION	**45.1**	+11.1	47.9	29
HEALTH	**69.2**	+0.5	69.6	28

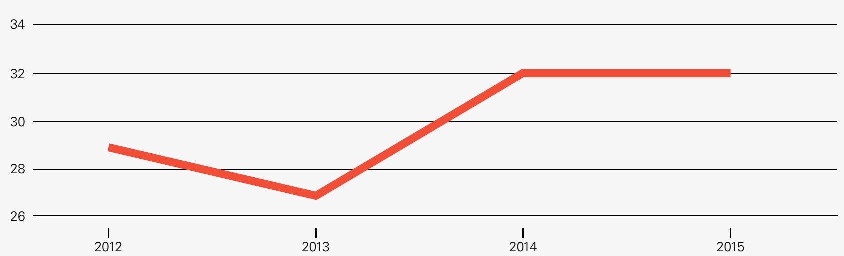
FRASER INSTITUTE INVESTMENT ATTRACTIVENESS INDEX

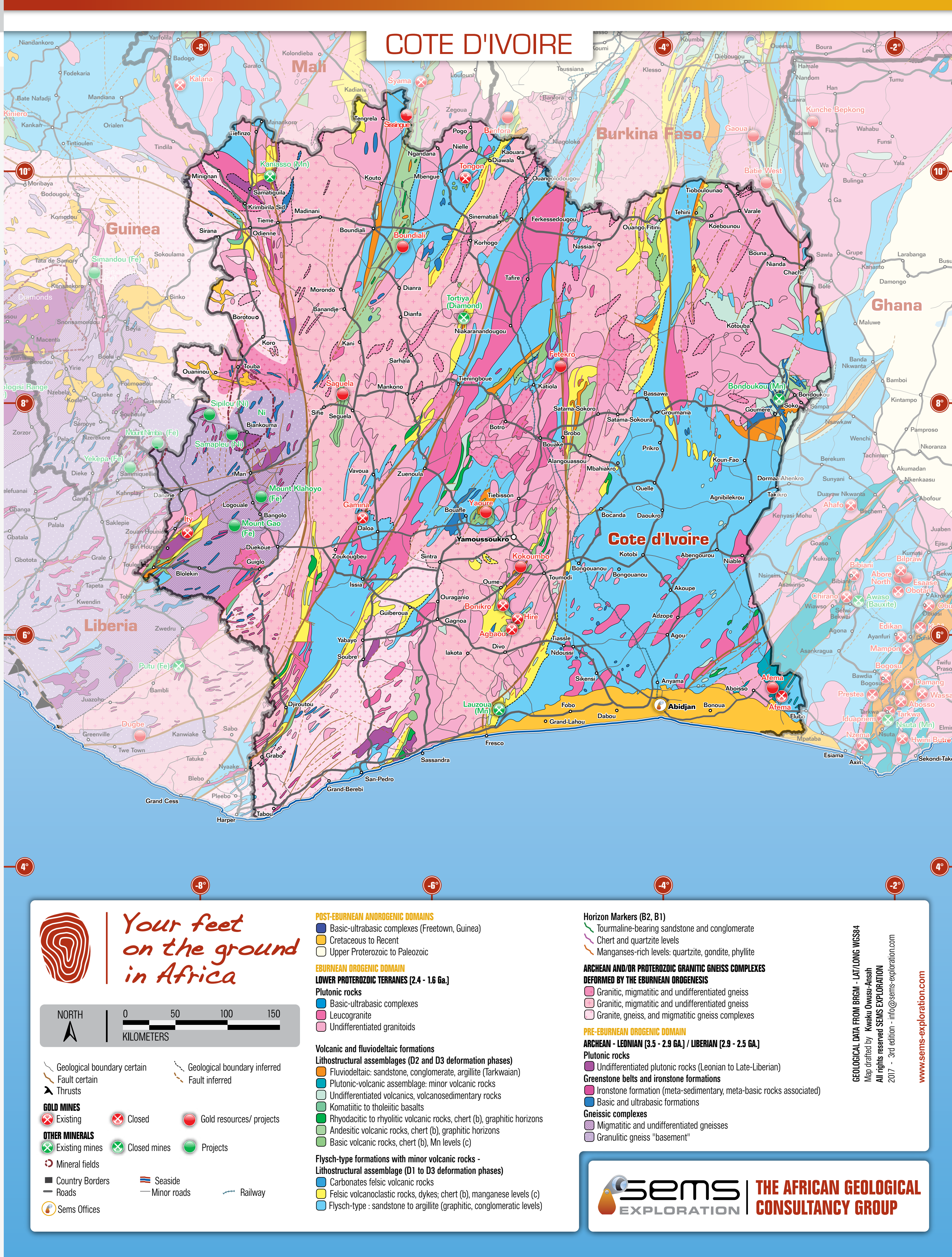
SOURCE: FRASER INSTITUTE



TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTIONS INDEX

SOURCE: TRANSPARENCY INTERNATIONAL





Hon. Dr. Jean-Claude Brou

Minister of Mines

Cote D'Ivoire has come into the international spotlight as West Africa's next big destination for mining investment. How important is mining to the economy today and what minerals are the most prospective for the country?
Our economy continues to be largely based on agriculture, however, at the same time, our nation's industrial service and mining sectors have been growing rapidly. We share several of the same prolific Birimian greenstone belts that have led to important mining in neighboring countries. Gold is our most important mineral with deposits of around 600 mt. Exploration is still at an early stage in our country, and is set to increase. We also have more than 4 billion mt iron ore of deposits, as well as nickel, copper and significant reserves of bauxite and manganese.
Currently, 175 exploration permits have been issued across the country. These cover the full spectrum of our mineral wealth but the vast majority are focused on gold. On the production side, total gold output has increased five fold between 2010 and 2015. Production reached over 23 mt/y in 2015 and we have five industrial gold mines in operation. Two new mines are under construction: Perseus is currently building its Sissingué mine in the North and the Afema mine on the intersection of the Bibiani and Asankrangwa belts is under development. A third mine (Yaouré) will also start in 2017.
There are four manganese mines in operation, with strong potential for more to be developed in the future. Needless to say, the sector has been adversely affected by weak commodity prices but exploration is continuing across all our minerals. Importantly, the nickel project and the bauxite deposit will be developed in 2017.

President Ouattara's reelection in 2015 cemented Cote D'Ivoire's reputation as a peaceful democracy. Do you believe that the country will now see a large surge in foreign investment?
President Ouattara's successful re-election in 2015 confirmed to the world that Cote D'Ivoire has developed into a stable and mature democracy. When he came to power in 2011, the reforms and policies that he introduced reassured the private sector and completely changed investment perspectives on our country. What the private sector wants is confidence and stability. This has been delivered. In 2013 and 2014, Cote D'Ivoire was recognized as one of the 10 best performers for improvements to business environment by the World Bank. Macroeconomic indicators confirm that the economic situation is highly positive: GDP growth has remained steady at around 9% per year for five years and there has been a commensurate rise in per capita income. As a result, foreign investment has increased.

Cote D'Ivoire reviewed its mining code in 2014. Could you walk us through the main changes and how they will affect investors?
The mining code was reviewed in 2014 to replace the previous legislation introduced in 1995. This was intended more as a modernization to keep pace with the industry. We have reaffirmed our commitment to international protocols such as the Extractive Industries Transparency Initiative (EITI) and the Kimberley Process. Similarly, we have introduced and formalized the mining convention. Exploration permits have increased from seven years to 10 years and the process for applying for exploration rights has been overhauled. Now there is a maximum turnaround time between application and response. In terms of fiscal incentives, there are fiscal exemptions during exploration and construction phases that make the country more attractive to investors. As for local community development, there are now clear guidelines for the mines and on the level of contribution they are expected to provide to their host communities. On the environmental side, there are stricter guidelines so that the land can be reclaimed for agricultural usage once the mining operation has come to an end. Finally, we have introduced a new fiscal regime with royalty and taxation rates based on international best practice. We believe that the new code strikes an optimal balance between incentivizing investment and ensuring that the country maximizes benefits from its natural resources.

While Cote D'Ivoire's power supply is praised as the strongest in West Africa, can it keep pace with expected demand?
The current situation is good. Total production is enough for domestic demand, including household use, industrial and mining. We even have a small surplus which is exported. To satisfy this expected strong demand, the government has devised a major investment program to double capacity by 2020. In parallel, we will be diversifying our energy mix. •

Cote d'Ivoire Wins the Gold

West Africa's top mining destination

by Laura Brangwin,
Meredith Veit

The global mining community has known for decades that Cote d'Ivoire sits on resources worth exploiting, but tumultuous circumstances above ground have kept most investors wary of setting up business within its borders. A coup, civil war, Ebola and economic downturn have plagued the country's entrance into the 21st century, but the re-election of President Ouattara in 2015 serves as an indication of Cote d'Ivoire's recent stability. Those already established in Cote d'Ivoire do not dwell on the conflicts of the past; instead there is a stir of excitement for having found the pot of gold before the rest. The increase in gold prices, coupled with large-scale regulatory reform, makes Cote d'Ivoire's large portion of the Birimian belt more attractive than ever. "SEMS Exploration Services opened an office in Cote d'Ivoire twelve years ago, and we've always had the feeling of 'maybe next year' until now, as everything has really come together," noted Simon Meadows Smith, managing director of SEMS.
At the start of 2017, news headlines over-assumingly reframed Cote d'Ivoire as erupting with violence and chaos. On January 6, there was an uprising of discontent soldiers marching for higher pay, which was resolved within days as the Minister of Defense tranquilly submitted to their demands for better working conditions. Meanwhile, the former Prime Minister Daniel Duncan resigned on January 9th, according Cote d'Ivoire's new constitution which was ratified in October 2016. The peaceful shifting of elected officials and sensible concessions to just public demands are signs of a healthily functioning government under President Alassane Outtara's purview.
GBR's survey results, which was issued to mining executives already present within the country, indicate that 71% of respondents feel that public-private sector relations have improved over the past year. While Cote d'Ivoire still lags behind more developed mining destinations in the region such as Ghana, Burkina Faso and Mali, it is now offering a golden opportunity for companies active in the region to expand. "Côte d'Ivoire is the latest destination of choice, with significant potential that has never been fully explored providing the blue sky to complete regional portfolios," said Ludivine Wouters, managing partner at Latitude Five, an investment and advisory firm providing independent growth and transaction support services to local and international investors and businesses across West Africa, in mining, mining services and infrastructure.
Players who left the market years ago are now seeking points of re-entry, and current producers are snatching up as much land as possible while they still can.

Regulation

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Ouattara's National Development Plan (NDP) 2016-2020 includes structural reforms that aim to further stimulate the recent surge in both private and public sector investment. Agriculture remains the primary contributor to GDP—cocoa, coffee, cashew nuts and sugar having all seen an increase in production in 2015—yet mining has risen as a critical focus over the past two administrations. "We are predicting about 2% of the 8% projected GDP growth for 2016 will be mining related," states Madeleine Tanoe, partner at PricewaterhouseCoopers Cote d'Ivoire. The passage of the new mining code, in March 2014, removed the additional profit tax (which was formerly payable by permit holders at the rate of 7% of turnover), introduced greater transparency in permitting procedures, elongated the time period for initial exploration permits (extending the range from 3 to 4 years), and limited State participation to 15% of the share capital of each mining company, among other changes. "Another advantage is that companies pay no tax for an exploration permit, and Cote d'Ivoire is one of the only countries that offers a five-year tax exemption following commencement of commercial operations," explains Eric Kondo, managing director of Mining Consulting Services in Cote d'Ivoire, as well as treasurer and legal consultant for the Chamber of Mines and consulted on the draft of the new mining code.

"Rather than opening an office and investing large amount of cash in a difficult environment, we develop consignment stock deal where suppliers have access to our infrastructure and clients. The only risk a foreign supplier takes is to hold stock within our facilities, so it is a way to enter West Africa at very low cost and have access to X&M expertise in West Africa."

- Stanislas de Stabenrath, X&M

"The current Minister of Mines, Mr Brou, has developed and implemented incredibly favorable policies; however, we have yet to see enough money pumped into the exploration industry worldwide, which is why the sector is picking up slowly," noted Stanislas de Stabenrath, director general of Exploration & Mining Suppliers (X&M).

As the government works to effectively implement the new legislation, Cote d'Ivoire's NDP also posits a necessity for increasing its capacity in raw materials processing. Pragmatically, any form of value addition has seen little fruition to date across industries. "Cote d'Ivoire is focusing on diversification of its mineral production, with developments in manganese, calcined bauxite and nickel; however, in a number of cases, mining licenses are being applied for and granted on the back of studies that do not include any processing. We are not exporting minerals; we are exporting ore," noted Ludivine Wouters. "This attracts operators looking for projects with the potential to rapidly generate cash flow, but seems at odds with the State's industrialization policy."

Due to the adolescence of Cote d'Ivoire's mining industry, after extracting and crushing the ore, it must be exported for further treatment to countries that have longer mining histories, such as Ghana or Mali. Gold remains the country's driving resource, which limits the possibilities of beneficiation by nature, but the integration of labs and refineries present interesting opportunities for impending investment given Cote d'Ivoire's central West African location and the ease of doing business in comparison to its neighbors.

Exploration & Production

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The sustainability of Cote d'Ivoire's mining industry, however, primarily depends on the uptake of exploration activity. Hosting only five gold producers—La Mancha, Newcrest, Randgold, Perseus and Taurus Gold—the 23.5 metric tons per year (mt/y) current output is miniscule in comparison to the 600 mt/y known potential, and microscopic in comparison to the cumulative unmapped reserves. Two new mines are under construction: Perseus is currently building its Sissingué mine in the North and Taurus Gold is underway with the Afema Mine on the intersection of the Bibiani and Asankrangwa belts. Three manganese mines also contribute to national GDP, but adverse commodity prices have kept operations lean. Thankful to the upswing in gold prices, Cote d'Ivoire's major multinationals have both increased their exploration budgets and begun strategic acquisitions. "Although Cote d'Ivoire continues to attract significant attention as the newest exploration destination of West Africa" explained Wouters, "new entrants sometimes remain cautious despite the hype, with M&A over the last years often consolidating any advanced or significant exploration into the hands of current producers."

Randgold has been expanding its Tongon operation, but has also heavily invested in collecting dated information and newly mapping Cote d'Ivoire to create an extensive database from which they can make precise and focused exploration decisions. "In addition to established projects in the north of the country," explained Mark Bristow, CEO of Randgold, "Randgold has just started a footprint in the Southeast of Cote d'Ivoire, as we think it has merit worth investigating."

Given Cote d'Ivoire's perfect combination of geological prospectivity, economic and fiscal stability, and infrastructural ease, Bristow prays he will find his next major gold mine within Cote d'Ivoire's borders.

Given the lifecycle of mining permits pre-2014, now is the time for renewals and purchases, and the existing multinationals are knocking on the Ministry's door looking for more. Most recently, Perseus Mining acquired Amara Mining in April of 2016, granting access to their Sissingué and Yaoure gold projects. The Egyptian company Centamin purchased Ampella Mining in 2015, beginning what is more-or-less a grassroots project in Côte d'Ivoire in accompaniment with their advanced project in Burkina Faso. Newcrest is working in partnership with local exploration company TD Continental to develop their three licenses that have preliminarily been deemed valuable, but more tests need to be done to confirm the reserves. Michel Sogjiedo Mian, president director general of TD Continental noted that the company is "also interested in collaborating with mines with smaller production targets and semi industrial licenses. We noticed that a significant amount of deposits are sometimes abandoned by senior companies as the production capacity is not large enough for them, but they are still valuable."

A notable number of Ivoirian juniors have entered the mining scene and are interested in smaller-scale project development. "The process by which mining companies achieve a license to operate in Cote d'Ivoire is fair and equal for both local and international companies," explained Bamba Tahi Henri, director of B&F Minerals. "Compared with Burkina

Faso and Mali, in Cote d'Ivoire there are many more local companies which have managed to obtain licenses to work in the mining sector; however, this is often dependent on the quality of the entity." B&F currently possesses a license to operate in four separate areas of the country, and has already invested more than $2 million in a project in Daloa that they hope to bring towards the feasibility stage.

Some dedicated multinational juniors are expectantly pouring significant investment into the country. Predictive Discovery, which operates on a project generator model, created a joint venture with Toro Gold to develop their Boundiali, Ferkessedougou, and Kokumbo concessions. "In our initial geochemical survey in 2014, the most interesting result was a 24 part per billion (ppb) anomaly from a 15 square kilometer (sq. km) catchment at Boundiali, which we then thought could reflect a world class gold deposit," stated Paul Roberts, managing director of Predictive Discovery.

Toro and Predictive have recently begun drilling this target, which is resulting in impressively high gold grades in some holes. "There is a significant amount of work still to be done in all of our permit areas, but currently Boundiali is the joint venture's main focus. Kokumbo is also part of a very well mineralized belt and we have had some encouraging diamond drilling results there as well," concluded Roberts.

"Gold is an asset in which you can invest your money for faster development: while creating and exploring a gold mine can take 14 or 15 years, a base metal needs 20 or 25 years minimum to be developed, and that time makes a big difference."

- Nouho Koné,
Principal Consultant,
NF Consult

Though most explorers remain fixated on gold, Cote d'Ivoire has approximately 4 billion mt of iron ore in the Western part of the country. This is complemented by around 350 million mt lateritic nickel as well as additional reserves of copper and manganese. "Base metal exploration and exploitation is neglected," noted Nouho Koné, principal consultant for NF Consult, "gold is an asset in which you can invest your money for faster development: while creating and exploring a gold mine can take 14 or 15 years, a base metal needs 20 or 25 years minimum to be developed, and that time makes a big difference."

Local entrepreneur and newly acclaimed mining junior Moumini Bictogo has managed to add value to Lagune Exploration Afrique's bauxite extraction operations, with the aim of moving into full production by the close of 2016. Within one site, Lagune Exploration Afrique discovered 25,000,000 tonnes of bauxite; however, after conducting cost analyses it was uncovered that selling basic bauxite would not be economically advantageous. "Thus, we are working to build a calcination factory to bring more value to the mineral—increasing its profit potential by 200%-300%," explained Bictogo.

Upon its construction, Lagune Exploration Afrique will be the first and only West African metallurgical company in nationality.

Tiguidanke Camara, a Guinean international businesswoman, is also working to make her name known in the mining community. Her current focus is acquisition, strategically investing in Cote d'Ivoire as a door to the rest of West Africa. "I first started paying attention to mining during my modeling career, when I become aware of the fact that many of the jewels I was wearing were obtained from Africa," explains Ms. Camera, chairman and CEO of Tigui Mining Group. Her focus is thus centered around gold and diamonds, and "within the next two years, we plan to be in the exploration phase on at least one of my licenses," she explains. Mr. Bictogo and Ms. Camara are both working to prove that it is possible, and should be easier, for Africans and foreign investors to thrive in the mining industry.

Cote d'Ivoire is not an exception to the global challenge of sustaining national security. March 13, 2016, the first terrorist attack in the country's history occurred at the Grand Bassam beach resort. Mining executives, however, posit that this should not serve as a deterrent to entry. The administration and the ministry are working to uphold their promises for increased security and improved transparency across a multitude of institutional layers. The United Nations is steadily decreasing the number of uniformed personnel stationed in Abidjan, Cote d'Ivoire's economic capital, and has increased confidence in Cote d'Ivoire's governance. Cote d'Ivoire became EITI compliant in 2013, the diamond embargo was lifted by the UN in 2014, and Kimberley diamonds resumed exports in March of 2015. In January of 2016, the Ministry of Industry and Mines made the commitment to implement a modern mining cadaster system for improved efficiency and clarity of ownership. •

"TD Continental holds approximately 20 licenses, which are operated within the framework of joint ventures agreements, and in collaboration with international partners whose technical expertise and financial strength have proven suitable for large-scale mining projects."

- Michel Sodjiedo Mian,
President Director General,
T.D. Continental S.A

Mark Bristow

CEO, Randgold

You have become the weathervane for gold mining destinations in West Africa. Why is Côte d'Ivoire currently your country of optimal choice?

Randgold looks at all African countries and we rank them against our risk assessment criteria. We will look at geological prospectivity first, which is the potential to find a gold deposit larger than 3 million ounces that will deliver an IRR of 20% a year at a $1000 long term gold price. There are many African countries that will fit this filter for gold, such as Senegal, Mali, Côte d'Ivoire, Burkina Faso, Ghana, and the entire Archean gold field geology in Central and Eastern Africa which stretches from Dar es Salaam to North Eastern DRC.

The second filter is the economic and fiscal regime of the country. We will also consider the economic and political regime of the country, such. Lastly we will consider the infrastructures such as accessibility of power and water supply.

When we apply all of these filters, the only A-grade country is Côte d'Ivoire. Côte d'Ivoire has a competent civil service and the country is run not only by politicians, but also by a cadre of professionals. People have stayed working in their departments for many years and there is history and knowledge. Côte d'Ivoire is also a very favorable destination for mining as it has the best infrastructure in West Africa.

Can you elaborate on the accessibility of power in Côte d'Ivoire, considering this was a challenge for Randgold recently?

Currently things are more or less up and running. We built a power line from the Korhogo substation and linked some of the villages in the vicinity to the power line as they were deprived of electricity. It is a single power line and it comes with its challenges, but the government is working on building additional power lines and roads.

We have always had a backup power station that can run our entire mine without the grid.

Can you elaborate on Randgold's PAMF-CI initiative?

To elevate economic activity within the footprint of our mines, we run multiple microfinance operations such as PAMF-CI to assist locals in creating their own businesses. Our aim is to benefit the communities in such a way that they can continue to thrive economically even after the mine is closed. We call this our legacy strategy.

Ahead of starting a mine, we conduct a social baseline study to understand the activities of the surrounding communities. Wherever we can, we will develop needed infrastructure and ensure that all villages in our affected area have access to clean water. Every six months, we have discussions with the leaders of the villages to identify problems in the community and find solutions together. We run business development courses for the communities, and we try to encourage the local entrepreneurs to dream big. With big aspirations, financing is required and this is how micro-financing starts. Randgold will financially support local businesses in their economic endeavors because most banks do not consider it.

Do you have a final message about Côte d'Ivoire, and your perspective on West Africa in the future?

Africa is an emerging continent, and by 2025 it is going to have the highest percentage of young people in the entire world. West Africa is rich in natural resources and there is still a significant amount of opportunities in the region. Côte d'Ivoire stands out as a mining destination in West Africa, as it has the infrastructure, a reputable political and administrative structure, and significant endowments. The country has the fundamental requirements of building the basis of a sustainable community which is potable water, primary healthcare, primary education, and food security. For any mining company it would be a great advantage to find the next world class mine in Côte d'Ivoire.

In addition to its projects in the north of the country, Randgold has just started a footprint in the southeast of Côte d'Ivoire, as we think it has merit worth investigating. There has not been much exploration in Côte d'Ivoire and there is no comprehensive database on which new entrants can base their exploration. A competitive advantage for us is that we have been in the country long enough to build a map and databank which are now helping us make smart and focused decisions.

We also continue to work with all the sector players and the government to attract new investments into the industry as well as the economy as a whole. •

Beating the investment trends...

Ludivine Wouters, Managing Partner, Latitude Five

latitude|five°

Over the last few years, despite global market conditions, West Africa's gold sector has continued to attract significant investment, from regional producers as well as new entrants acquiring development, pre-development or exploration assets, often with a similar strategy of spreading their investment across two or three jurisdictions in the region. Though Canadian and Australian gold producers looking for consolidation and geographical diversification have played a dominant role in this growth, investors and operators from other regions, including Turkey and the Middle East, China and India are increasingly active in the sector, bringing financial capacity as well as operational expertise to a variety of projects.

This remained true in 2016, with significant M&A across the sector and increasing exploration budgets, including those deployed by new project generation vehicles. West Africa has also seen growth in other minerals, with minerals sands, lithium, graphite and calcined bauxite projects progressing across the region as the global energy and technology landscape evolves.

The hope is that the next two to three years see higher and sustained gold prices stimulating exploration and development expenditure in West African gold. After several years of expenditure discipline, a number of gold producers, including South African companies, are in a position to take advantage of healthier balance sheets and stronger cash flows: West Africa should a destination of significant interest for them.

... and managing regulatory transitions

Francophone West Africa benefits from a higher degree of legal and regulatory harmonization than other African regions, facilitating market entry and regional growth decisions. Investor and operator confidence indicators, such as the Policy Perception Index published annually by the Fraser Institute, show that some regional jurisdictions remain very strong among African peers, including Burkina Faso, Ghana and Côte d'Ivoire, whilst others need to reaffirm their place among top investment destinations, such as Mali, Niger and Guinea.

Since 2010, the mining sector has had to deal with a constant flow of regulatory transitions across the region: despite already revising fiscal terms in 2012, Senegal recently adopted a revision of its mining legislation after months of delay and hesitation, significantly reducing fiscal incentives; Burkina Faso is still in the process of adopting implementation regulation for the revised mining code of June 2015, also characterized by an increase in fiscal burden; Mali recently announced a revision of its 2012 mining legislation, with the stated objective of increasing returns to the country and national economy. These processes will continue into 2017: in an environment where exploration and project generation are key drivers of growth for the mining sector, they should not hinder investment.

In most cases these transitions include extensive industry consultation, aiming to provide law makers with consensual proposals, though the final legislation may be significantly impacted by internal political and social drivers. Operators have mostly succeeded in obtaining that contractual frameworks including stability provisions remain unaffected, though renegotiation has been required in some cases. Mining associations and chambers continue to request improvements in the rapidity and transparency of permitting processes in a number of West African jurisdictions.

Two aspects should dominate the regulatory landscape in West Africa in the coming years: one is the efforts of Governments across the region to curb illegal mining, particularly in the gold sector, with international organisations and donors pressing for regional coordination; another one is the emergence of local content regulation or initiatives, as Governments and civil society organisations seek to increase positive returns from mining for local economies. In both cases, it will be important to ensure that industry views are expressed and taken into consideration in adopting workable regulation. •

Services

• • •

To support new exploration companies and offer local expertise, Cote d'Ivoire is home to an array of Africa-experienced service providers and small consulting firms. Amongst these firms is Biotitiale, an environmental consultancy firm, launched in 2012. "If a client wishes us to complete all requirements until a permit is obtained, we can provide that service, or else we can help with particularities related to each mine. We can coach a company as to how to obtain all of the various permissions required from the Ministry of Industry and Mines as well as other institutions, especially in all matters concerning safety, security and the protection of the environment," explained general manager for Biotitiale, Yao Kossonou.

Exploration companies also require sample analysis, but laboratory support has not been historically easy to access from Cote d'Ivoire. ENVAL is one local consortium taking advantage of this gap in the market. What began in 2000 as an environmental impacts bureau has since evolved into a multi-industry physiochemical laboratory for pollution, oil and soon mineral sample analyses. ENVAL operates the largest laboratory in Cote d'Ivoire, and is the second laboratory to achieve ISO 17025 certification, ahead of SGS, Bureau Veritas, and Intertek. "This new laboratory will be the very first of its kind in Cote d'Ivoire for mining analysis," Bakary Coulibaly, managing director of ENVAL, explained. "Due to our proximity to the mines, we can deliver results in a shorter time frame at the same level of standards as the laboratories in Ghana or South Africa. When given a sample for analysis, our results are ready between a 24-hour to 48-hour timeframe—something that is impossible for our competitors to deliver."

Stringent local content laws are not in place at present, with the intention of providing one less obstacle to entry for businesses. Within the players in the market, a strong majority think that local content development should be tackled via capacity training, according to GBR's industry executives survey results. Soudure Industrielle Et Construction (SIC-CI) is an Ivoirian industrial welding and construction company which began working for the main oil refinery of Cote d'Ivoire. After the new mining code was passed, SIC-CI decided to integrate the mining industry into their business under the premise that multinationals would be more inclined to dedicate energy towards knowledge transfer. "It is never easy for a new company to get a market share in mining," noted Mandjou Kourouma, director general of SIC-CI, "but we have local competencies in place with an excellent and talented team of local workers. By using local talent we can save costs for both ourselves and our clients."

Indeed Abidjan, the commercial capital of Cote d'Ivoire, is emerging as a local service hub to the francophone West African mining region – in part to do with its strategic location, infrastructure and port facilities, but increasingly due to a well functioning legal system, government and a relatively well educated population. CAT distributor Manutention Africaine built its training center in Abidjan given its great confidence in the country. "Cote d'Ivoire certainly has the best infrastructure in West Africa," explains Ludovic Boland, mining manager for Manutention Africaine, "Power supply in the country is good and most of the mines are running on the grid with only backup power plants. Road infrastructure is much better than the roads in other territories, and mines are easily accessible." Earthmoving and construction equipment provider Kanu Equipment Cote d'Ivoire has evolved to become the company's largest operational branch in the region. "By 2019, the government aims to have built around 7000km of new, modern roadways. This development has already begun, and new investors are increasingly more present," says Francois Bigara, managing director of the Cote d'Ivoire division.

The national government is working on a port extension project to further increase accessibility and ease the logistics of export. "In Côte d'Ivoire the government is very focused on infrastructure development to support the development of the economy," states Jean-Michel Maheut, regional director for Bolloré. "The existing infrastructure is acceptable for gold, which does not need as many containers, but more investment is needed for the containers in order to support export volumes of exporting base metals such as Manganese and iron ore." Construction will also commence within the next two years for a new containers and vessels quay and a logistics industrial area near Yamoussoukro.

The promising direction of the country and the strength of the Society for Mining Development (SODEMI) have cultivated trust from many multinational suppliers and service providers as well. EPC Groupe, a world leader in the manufacturing, storage and distribution of explosives, recently installed a modular group plant in Cote d'Ivoire. "Our investment illustrates our belief in the potential of the country," says Jean-Jacques Koua, managing director of EPC Cote d'Ivoire. Multinationals that are already present in the country are preemptively training staff in correspondence with their expectations for mining's impact on domestic power needs: "We have implemented programs for training young people around mining sites—mainly concerning electrical engineering—to assure that we also retain the human capital needed to keep up with the increase in energy demand," states Dalil Paraiso, West Africa general director for Schneider Electric.

"Though it is set into the new Mining Code, the local development funds in place seem to have a few difficulties to be fully implemented. A wider consultation with the stakeholders would help amending accordingly this important law, which should contribute to the realization of tangible projects, as well as to the acceptance by the communities of the mining projects."

- Bodiel Ndiaye,
President,
Mining Association in Cote d'Ivoire (GPMCI)

"We want to enter into a dialogue with mining companies so as to ensure a healthy environment for the good of the workers, the communities nearby and for the mining companies themselves."

- Yao Kossonou,
General Manager,
Biotitiale

EY, for example, has chosen Abidjan as its regional base, as Eric N'guessan, partner, EY Cote d'Ivoire, explained: "EY Cote d'Ivoire positioned itself in Abidjan as the center point between Canada and Australia because a great deal of foreign direct investment comes from those two mining powerhouses. Globally, EY has nine world mining partners, and in West Africa, EY Cote d'Ivoire is the hub for the region. From Abidjan, we cover Togo, Mali, Burkina Faso, Niger, and Benin." Hyspec, which provides hydraulic hoses, greasing machines, oil transfer services and more, offers itself as a case study for the strategic value of Abidjan as a hub. "We experienced 180% growth due to our increase in services from the strong clientele that we currently hold. We have good products and even better know how, so we are confident that we will continue to grow," says Michel Bertoncini, managing director of Hyspec Cote d'Ivoire.

X&M Suppliers is another Abidjan success story, as their managing director Stanislas de Stabenrath has honed in on risk adverse business models to steadily increase investor confidence in the stability of the country. "We are also assisting foreign supply companies to have a better access to the West African market by signing consignment stock agreement with X&M," says Stabenrath, "Rather than opening an office and investing large amount of cash in a difficult environment, we develop consignment stock deal where suppliers have access to our infrastructure and clients. The only risk a foreign supplier takes is to hold stock within our facilities, so it is a way to enter West Africa at very low cost and have access to X&M expertise in West Africa. We are already holding large stock on behalf of private and ASX listed companies. X&M has set the largest stock of Standard (CRM) in West Africa in partnership with Ore Research and Exploration (OREAS), an Australian private company."

Conclusion

Aside from challenges common to the operational environment of African terrain, Cote d'Ivoire is unanimously deemed the top mining destination in West Africa for those who have the experience and girth to commit to a long-term vision in the region. Its exceptional infrastructure, connectivity, and political stability fill in the cracks of what was once a shaky foundation. Now that the implementation of these essential elements are proving successful, thought leaders are able to more fluidly advocate for development on a grander scale: "We should start sharing the knowledge that we have as to optimize projects and industry operations. The mutualization of knowledge and skills would benefit everyone in the country as well as in the entire West African region," explains Shane Brady, managing partner of WINGI Group. •

GBR Mining Opinion Survey

RESPONDENTS ACTIVE IN THE FOLLOWING SEGMENTS

- Production: 8.5%
- Exploration: 34.2%
- Legal: 12.7%
- Equipment/Services: 29.7%
- Financial Institution: 4.2%
- Other: 10.7%

more than one answer possible

What do you think is the top factor to consider when looking to invest in an African Country?

POLITICAL STABILITY AND STABILITY (45.7%)

GOOD INFRASTRUCTURE (INCLUDING POWER SUPPLY) (20.4%)

LEGAL FRAMEWORK (11.8%)

TAX ENVIRONMENT (6.8%)

ECONOMICAL GROWTH (6.8%)

INTERNATIONAL PERCEPTION/ INVESTMENT RATINGS(8.5)

I think the key factor for Cote d'Ivoire currently being so attractive for mining investment is:

POWER SUPPLY (3.2%)

POLITICAL STABILITY (28.4%)

INFRASTUCTURE DEVELOPMENTS (19%)

MINING CODE (21%)

MINERAL POTENTIAL (28.4%)

*Some respondents chose multiple sectors

I think the mining sector in Africa has a positive outlook for 2017.

STRONGLY AGREE (26.2%)

AGREE (57.2%)

NEITHER AGREE OR DISAGREE (9.5%)

DISAGREE (7.1%)

STRONGLY DISAGREE (0%)

I think that public-private sector relations have improved in Cote d'Ivoire's mining sector over the last 12 months.

STRONGLY AGREE (15,7%)

AGREE (55,2%)

NEITHER AGREE OR DISAGREE (29,1%)

DISAGREE (0%)

STRONGLY DISAGREE (0%)

Cote d'Ivoire

I think development of local content should be addressed in the following way:

BY INVESTING IN LOCAL CAPACITY TRAINING (57.7%)

BY INTRODUCING A LOCAL CONTENT ACT (24.4%)

OTHER (11.1%)

LOCAL CAPACITY & ACT (6.8%)

Cote d'Ivoire offers good exploration potential with attractive conditions relation to other West African jurisdictions.

STRONGLY AGREE (32.5%)

AGREE (35%)

NEITHER AGREE OR DISAGREE (22.5%)

DISAGREE (10%)

STRONGLY DISAGREE (0%)

Since the beginning of 2016 it has become easier to raise capital for mining ventures in Cote d'Ivoire.

STRONGLY AGREE (10.5%)

AGREE (36.8%)

NEITHER AGREE OR DISAGREE (39.5%)

DISAGREE (13.2%)

STRONGLY DISAGREE (0%)

I think the risk of investing in mining in Africa has decreased in the last 5 years.

STRONGLY AGREE (9.8%)

AGREE (43.9%)

NEITHER AGREE OR DISAGREE (21.9%)

DISAGREE (24.4%)

STRONGLY DISAGREE (0%)

The mining industry in Cote d'Ivoire has a positive outlook for 2017.

STRONGLY AGREE (27.5%)

AGREE (55%)

NEITHER AGREE OR DISAGREE (17.5%)

DISAGREE (0%)

STRONGLY DISAGREE (0%)

I think that the rate of permit processing is:

VERY GOOD (16.2%)

ABOUT RIGHT (43.3%)

TOO SLOW (40.5%)

Ghana

Population: 26,908,262
Land area: 238,533 sq km
Official language(s): English
Head of Government: President John Dramani MAHAMA (since 24 July 2012)
GDP: $36.04 billion (2015 est.)
Growth rate: 3.5% (2015 est.)
GDP per capita (PPP): $4,300 (2015 est.)

SOURCE: CIA WORLD FACTBOOK

TAXATION RATES

SOURCE: PWC

Corporate Income Tax Rate

25% - 35%

Royalties

5%

MINING SECTOR CONTRIBUTION TO GDP

SOURCE: AFRICAN ECONOMIC OUTLOOK

2009	2013
2.1%	9.8%

FOREIGN DIRECT INVESTMENT

SOURCE: UNCTAD

FDI, $ millions

2014	2015
3,357	3,192

MINERAL PRODUCTION (2014)

SOURCE: British Geological Society

Diamonds	241,235 carats
Gold	98,528 kg
Manganese Ore	1,353,486 mt

BUSINESS ENVIRONMENT RANKING IN AFRICA (OUT OF 48)

SOURCE: WORLD BANK

	2015
Ease of Doing Business	9
Starting a Business	17
Dealing with Construction Permits	15
Getting Electricity	9
Registering Property	5

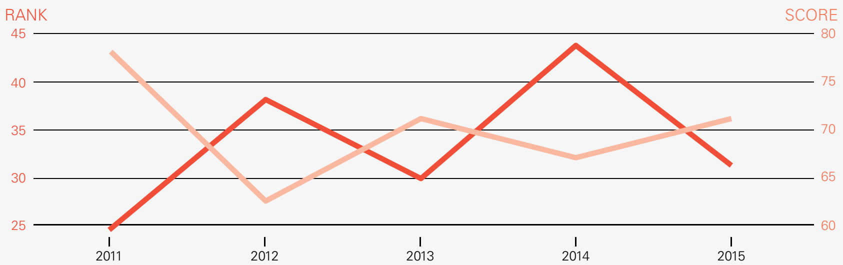
IBRAHIM INDEX OF AFRICAN GOVERNANCE

SOURCE: MO IBRAHIM FOUNDATION

	2016	change since 2006	Africa average	Rank / 54
OVERALL GOVERNANCE	63.9	-2.1	50.0	8
SAFETY & RULE OF LAW	70.0	-2.6	52.1	6
RULE OF LAW	88.0	+8.0	52.7	5
ACCOUNTABILITY	50.2	-5.4	35.1	11
PERSONAL SAFETY	56.6	-6.6	45.7	14
NATIONAL SECURITY	85.2	-6.2	75.2	23
PARTICIPATION & HUMAN RIGHTS	73.1	+0.1	50.0	4
PARTICIPATION	82.8	+5.2	47.9	3
RIGHTS	71.9	-3.1	46.8	4
GENDER	64.7	-1.7	55.4	15
SUSTAINABLE ECONOMIC OPPORTUNITY	48.4	-4.2	42.9	15
PUBLIC MANAGEMENT	44.6	-7.7	42.2	25
BUSINESS ENVIRONMENT	52.1	-4.5	39.7	12
INFRASTRUCTURE	39.1	-6.9	39.1	20
RURAL SECTOR	57.8	+2.1	51.5	18
HUMAN DEVELOPMENT	64.2	-1.6	55.0	11
WELFARE	61.1	-4.6	47.4	10
EDUCATION	61.0	+7.3	47.9	13
HEALTH	70.7	-7.3	69.6	24

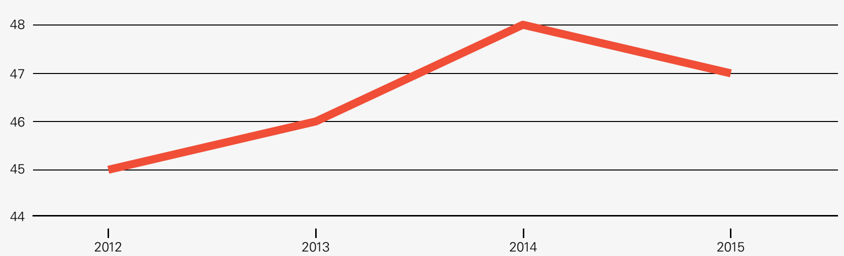
FRASER INSTITUTE INVESTMENT ATTRACTIVENESS INDEX

SOURCE: FRASER INSTITUTE



TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTIONS INDEX

SOURCE: TRANSPARENCY INTERNATIONAL



Jeff Quartermaine

Managing Director and CEO, Perseus Mining

Perseus Mining acquired Amara Mining earlier this year. Please tell us about the significance of this acquisition.
Perseus has a well-established operation in Ghana, and we decided it was the right time to diversify our portfolio. Perseus already had a relatively small, but economically viable project at Sissingué in Côte d'Ivoire that was ready to be developed, but we decided to look further for new opportunities to make sure that we would be deploying our capital to the best available opportunity. There was a strong strategic rationale to acquire Amara Mining, which had a high quality asset at Yoaure, but limited access to finance. Perseus was able to offer a strong technical team and financing. Thus, it was a very good move for both companies and allowed us to further diversify our portfolio across multiple properties and jurisdictions.

What are the main reasons behind Perseus's decision to bring Sissingué into production rather than focusing on Yaoure or looking for a larger deposit?
At the moment we are looking to consolidate the business and from there we will move forward. It will take us three to four years from the start of the DFS process before we start generating cashflow at Yaoure and, because we have Sissingué project, and it would produce cash flow sooner, we decided to go ahead with it first, even though it is a smaller project. The major reason to do so is that the Sissingué project is economically very robust. Secondly, it is positive in terms of financing, because by the time we finance the Yaoure project, we will already have a very strong cash flow from Edikan and Sissingué. The third reason is that the development team will first build the Sissingué project and then move straight from that to plan the execution of the Yaoure project, and by then, they will have a better understanding of how to develop a project in Cote d'Ivoire. Therefore, by doing this smaller project now, we are de-risking the development of the larger project. The final reason to develop Sissingué is that we made a number of promises to the Ivorian government and our company always delivers on its promises. Working in partnership with the government is a sensible strategy if we are going to be in the country for a long time, which is what we are going to do.

Perseus began production at Edikan in 2012, when gold was trading at about $1800/oz. What allowed you to stay afloat even after gold prices collapsed, and many of the West Africa gold mines were shut down?
Contrary to what a lot of investors wanted during the bull market, we hedged the price of some of our gold production at Edikan. Therefore, even when gold prices were falling, we still had the security that we could stay in business. This is what is called risk management. Managing the revenue line was important, managing productivity was very important and managing costs was extremely important. We implemented some major remedial actions and delivered benefits.

What level of production are you hoping to achieve this year?
The forecast for this year is around 220,000 oz. In addition, at the end of next year, the Sissingué project will start producing 75,000 oz per year, on top of the Edikan production, which is going to grow over the next few years. Later, we will we get Yaoure into production. We are well positioned to achieve annual production of 500,000 oz in four to five years.

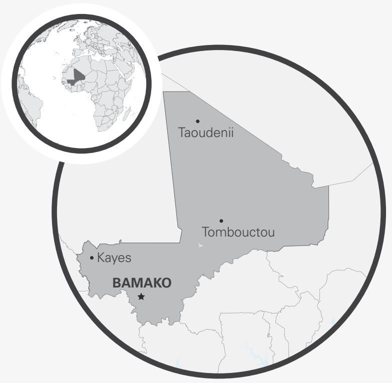
How would you assess investors' interest towards West Africa?
Investors have a renewed interest in the mining sector on a global level. However, they are not yet ready to pour money into the marketplace because there is still a residual negative feeling towards especially West Africa from the last bull market. That being said, companies such as Perseus and Endeavour might be in a position to change the situation, as we were successful in advancing our projects. Investors will certainly come back to West Africa, but perhaps not just yet.

Perseus now operates in Ghana and Cote d'Ivoire. With the latter being relatively new on the mining scene, what challenges does this pose for developing a project there?
Côte d'Ivoire is relatively new to the mining business, but the government is very proactive and developing this sector and having zero tolerance towards illegal mining. Moreover, they make it easier for investors to understand how to do business in the country. We have a clear understanding of what is expected from us, which gives us a feeling of certainty about operating in Cote d'Ivoire.
In terms of the labor situation, there are many skilled workers in Côte d'Ivoire and the government is willing to bring in expatriates to train local workers.

What community projects has Perseus Mining been involved in West Africa?
In Ghana, we have recently built a large housing estate. Additionally, we have established a community trust, where we put a certain amount of money every year and the community decides what projects they want to invest in. We invest in projects related to health and education, as we see this as one of the top priorities for local communities.

Do you have a final message from Perseus Mining?
Perseus Mining has evolved in the past three years and we are proving to the investor community that we deliver on our promises and are capable of generating consistent returns for shareholders. •

Image: CSI Energy Group



Mali

Population: 17,467,108 (July 2016 est.)
Land area: 1,240,192 sq km
Official language(s): French
Head of Government: Prime Minister Modibo KEITA (since 8 January 2015)
GDP: $13.07 billion (2015 est.)
Growth rate: 6.1% (2015 est.)
GDP per capita (PPP): $2,200 (2015 est.)

SOURCE: CIA WORLD FACTBOOK

TAXATION RATES

SOURCE: PWC

Corporate Income Tax Rate

free for first 5 years, then 35%

Royalties

3%

MINING SECTOR CONTRIBUTION TO GDP

SOURCE: AFRICAN ECONOMIC OUTLOOK

2014

5.8%

FOREIGN DIRECT INVESTMENT

SOURCE: UNCTAD

FDI, $ millions

2014	2015
144	153

MINERAL PRODUCTION (2014)

SOURCE: British Geological Society

Gold	45,400 kg

BUSINESS ENVIRONMENT RANKING IN AFRICA (OUT OF 48)

SOURCE: WORLD BANK

	2015
Ease of Doing Business	17
Starting a Business	16
Dealing with Construction Permits	25
Getting Electricity	22
Registering Property	24

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SOURCE: MO IBRAHIM FOUNDATION

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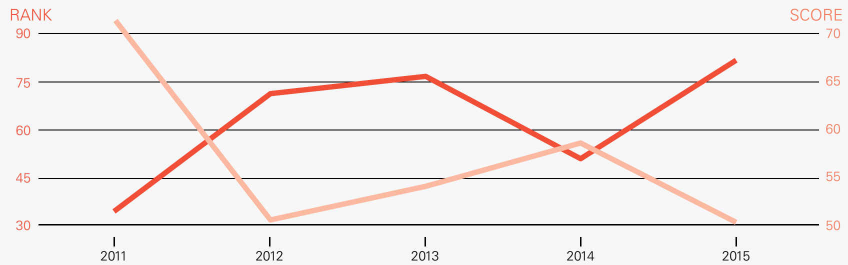
RULE OF LAW	54.6	-6.1	52.7	24
ACCOUNTABILITY	39.4	-12.3	35.1	20
PERSONAL SAFETY	50.9	-5.9	45.7	25
NATIONAL SECURITY	65.7	-10.3	75.2	40
PARTICIPATION & HUMAN RIGHTS	52.5	-12.4	50.0	27
PARTICIPATION	58.2	-17.3	47.9	24
RIGHTS	60.6	-13.9	46.8	15
GENDER	38.8	-6.0	55.4	46
SUSTAINABLE ECONOMIC OPPORTUNITY	46.3	+1.3	42.9	22
PUBLIC MANAGEMENT	44.7	-8.8	42.2	24
BUSINESS ENVIRONMENT	46.2	+0.5	39.7	19
INFRASTRUCTURE	37.1	+9.4	39.1	27
RURAL SECTOR	57.1	+4.0	51.5	19
HUMAN DEVELOPMENT	50.8	+0.6	55.0	37
WELFARE	47.1	+0.1	47.4	28
EDUCATION	35.5	+5.2	47.9	45
HEALTH	69.9	-3.3	69.6	26

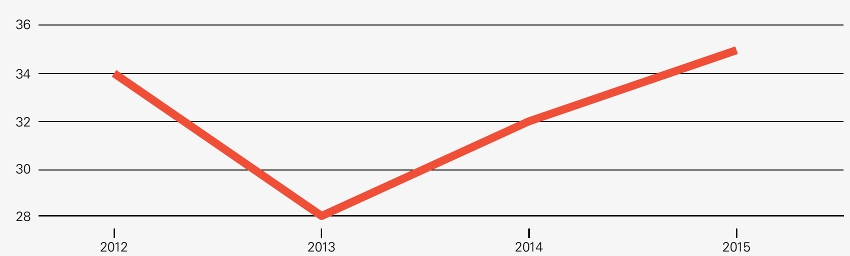
FRASER INSTITUTE INVESTMENT ATTRACTIVENESS INDEX

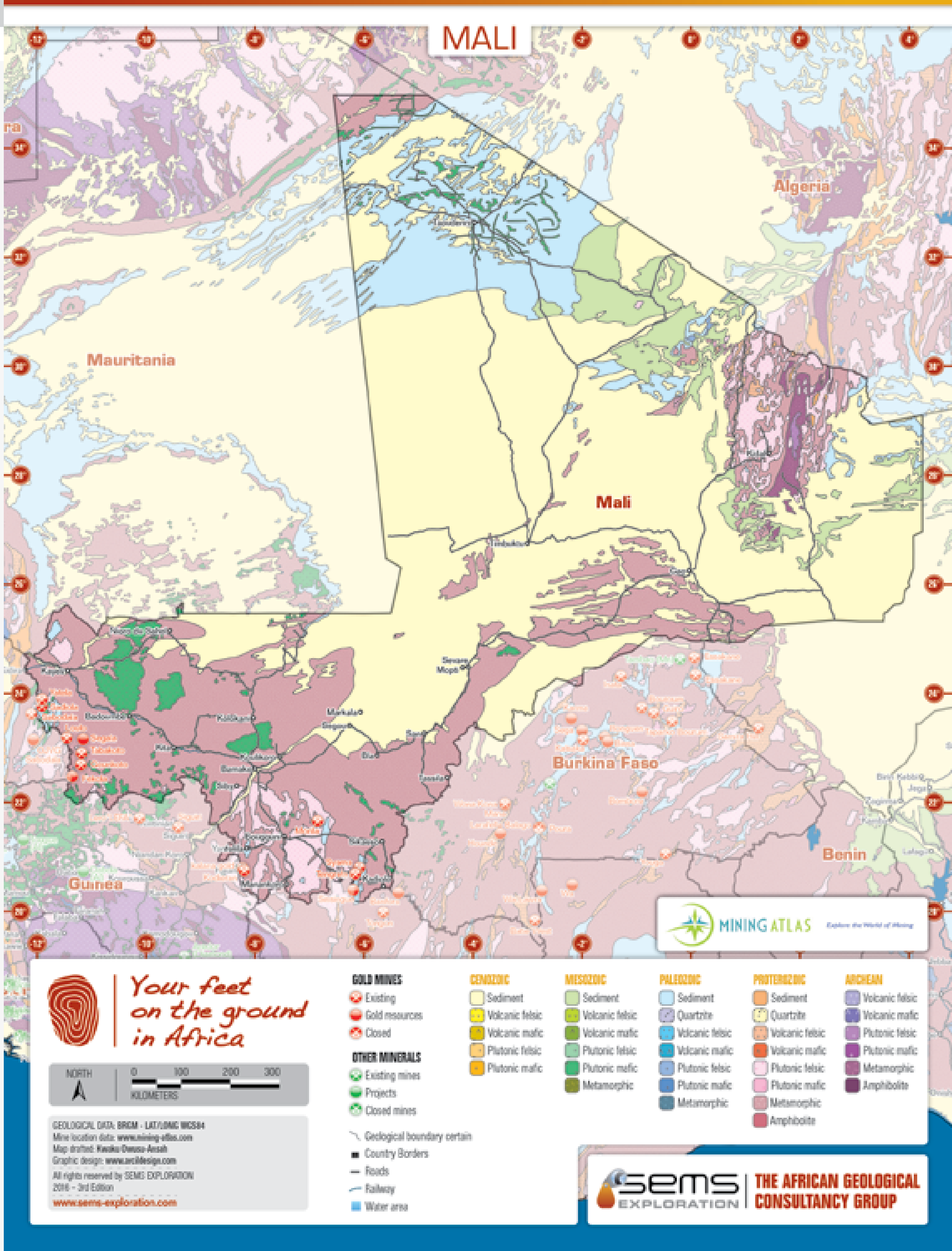
SOURCE: FRASER INSTITUTE



TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTIONS INDEX

SOURCE: TRANSPARENCY INTERNATIONAL





CENTRAL & EAST AFRICA

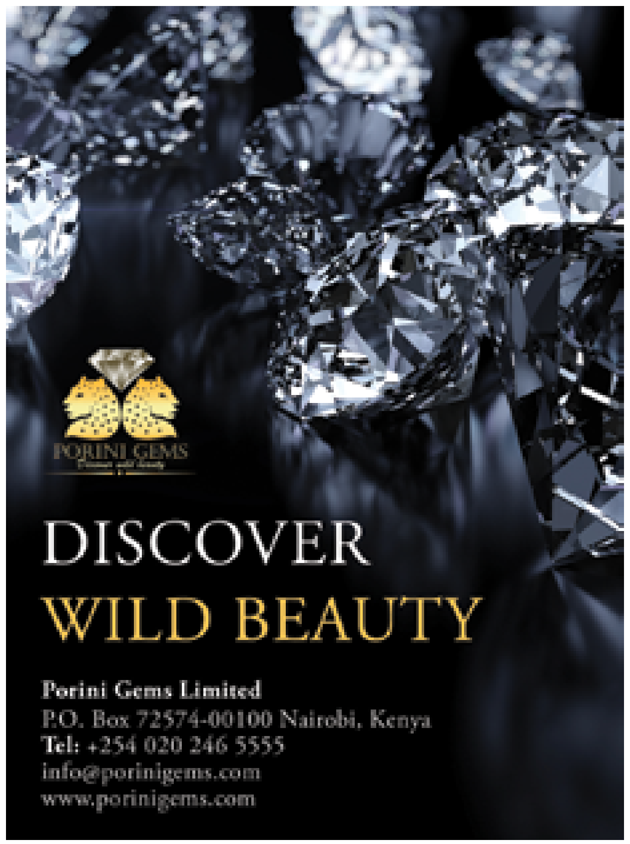
Kenya
DRC
Tanzania

"Kenya used to be a very difficult country to start and operate a mine in, but now they're determined to fix that. I'd like to see Tanzania realize how important the mining industry is to its economy, and encourage people like us to come in and invest in a big way."

- Tom Eadie, Executive Director, Strandline Resources

Image courtesy of Base Titanium

Central and East Africa



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Despite many mineral-rich areas in the East Africa region and several successful and lucrative projects underway, the region as a whole has suffered greatly from a lack of new investment, the repercussions of which are just starting to be felt. Countries are competing for a greatly diminished investor pool and, in an industry already so full of intrinsic risks, governments across the continent need to maintain a stable regime in order to instill investors with confidence regarding the security of their investments.

Underlying factors of great importance, such as energy and logistical infrastructure, have seen great improvement across the board, and have been marked as a key focus area by countries including Tanzania, Kenya, Uganda and Ethiopia. Tanzania's government allocated 25.4% of the total 2016/17 budget - TZS 5.47 trillion - to infrastructure projects, for example; meanwhile Kenya's 2016 budget allocated a total of KES 169.5 billion to infrastructural projects, as highlighted in Deloitte's Kenya Budget Highlights 2016. Ethiopia is particularly focused on road infrastructure, concentrating on the five main routes outwards from Addis Ababa towards Jimma, Awassa, Adigrat and Djibouti – the Ethiopian government is investing $940 million, supplemented by $309 million provided by the World Bank, $300 million by the European Union and $104 million from the African Development Bank. In June 2015, the World Bank also approved the third phase of the Energy for Rural Transformation Program Project to increase electricity access in rural areas of Uganda at a total project cost of US$168.2 million.

Equally, regional integration has seen a great deal of progress, increasing the EAC's profile as a potential integrated business hub. There are, for example, developments in the pipeline for the Lamu Port – South Sudan – Ethiopia – Transport (LAPSSET) Corridor, and the East Africa Road Network will also be an area of focus to boost regional trade.

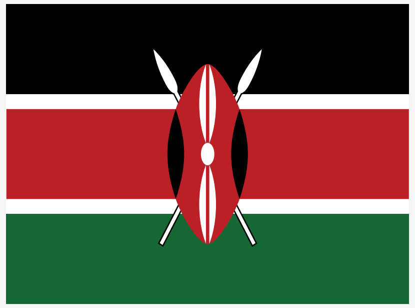
Kenya is generally ahead of other East African countries in terms of economic development, including financial sophistication and infrastructure. "Assuming the pricing is right, Kenya is probably one of the more attractive markets in East Africa," asserted Dominic Rebelo, partner at Anjarwalla & Khanna, East Africa's largest corporate law firm. "Kenya's support industry is well ahead of Uganda's. Rwanda is far ahead of Kenya in ease of doing business, but it is a small, landlocked jurisdiction, and exporting from Rwanda remains difficult. Ethiopia's business environment is improving, but investors face significant issues with getting money out of the country making large-scale projects which are not undertaken on a government to government basis almost impossible. Burundi is also seeing some challenges, so investors are currently avoiding it."

A major pitfall for several countries in terms of perceived risk is political stability and corruption. Pinpointed particularly by Tanzania's current president as a potential deterrent, the country's government has made strong moves to remove corrupt officials from its ranks. The goals of the new government are widely regarded as positive and progressive, although there is some uncertainty during the transition period.

Many East African countries have encountered a great challenge in balancing the interests of investors with those of the country. As a relatively new mining jurisdiction, Kenya has made moves to get this balance right from the outset, understanding the importance of maintaining an attractive business environment to attract investors. Kenya's cabinet secretary for mining, Hon. Dan Kuzungu, has also proven to be particularly open to dialogue with the private sector and new investors in order to find that balance. In Tanzania, on the other hand, the perception is that the industry has long favored the investors, and there are now attempts to tip the scales back in the country's favors. Doing so has unsettled many investors who perceive that the government is fixated on short-term financial return, and applying rapid and unpredictable changes to the tax regime - an ill fit for companies with a long-term view. Whilst it is the prerogative for any developing country to capture developments in-country, some of the requirements and perceived instability may in fact be counter incentives to invest in exploration in the first place.

Potential in the East Africa region is huge, and many companies are operating with great success, proving the markets to be navigable. In a region of such great mineral wealth, it is telling that the sector has, as yet, not accounted for a huge percentage of GDP in most countries, although both Tanzania and Kenya are pushing to grow the extractives sector to account for 10% by 2025 and 2030 respectively. As global markets improve, East Africa's mining jurisdictions will become increasingly attractive to investors as governments maintain an open dialogue with the private sector. •

Kenya



Population: 46,790,758
Land area: 580,367 sq km
Official language(s): English, Kiswahili
Head of Government: President Uhuru KENYATTA (since 9 April 2013)
GDP (PPP): $141.6 billion (2015 est.)
Growth rate: 5.4% (2015 est.)
GDP per capita: $3,200 (2015 est.)

SOURCE: CIA WORLD FACTBOOK

TAXATION RATES

SOURCE: PWC

Corporate Income Tax Rate

30% for a subsidiary,
37.5% for a branch

Royalties

Currently rates range between 1% and 12%
a) 1% for industrial minerals such as gypsum and limestone
b) 10% for coal, titanium ores, niobium and rare-earth elements
c) 12% for diamonds.

MINING SECTOR CONTRIBUTION TO GDP

SOURCE: AFRICAN ECONOMIC OUTLOOK

2014

1%

FOREIGN DIRECT INVESTMENT

SOURCE: UNCTAD

FDI, $ millions

2014	2015
1,051	1,437

MINERAL PRODUCTION (2014)

SOURCE: British Geological Society

Gold (2013)	2,100 kg
Natural Sodium Carbonate (2014)	409,845 mt
Titanium Minerals (2014)	334,008 mt

BUSINESS ENVIRONMENT RANKING IN AFRICA (OUT OF 48)

SOURCE: WORLD BANK

	2015
Ease of Doing Business	5
Starting a Business	19
Dealing with Construction Permits	29
Getting Electricity	3
Registering Property	19

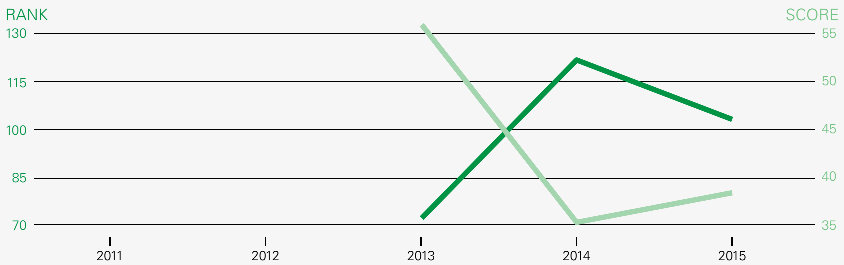
IBRAHIM INDEX OF AFRICAN GOVERNANCE

SOURCE: MO IBRAHIM FOUNDATION

	2016	change since 2006	Africa average	Rank / 54
OVERALL GOVERNANCE	58.9	+5.1	50.0	12
SAFETY & RULE OF LAW	56.3	+0.8	52.1	25
RULE OF LAW	71.6	+6.5	52.7	11
ACCOUNTABILITY	44.7	+2.7	35.1	15
PERSONAL SAFETY	49.7	+11.2	45.7	27
NATIONAL SECURITY	59.2	-17.3	75.2	45
PARTICIPATION & HUMAN RIGHTS	60.6	+3.6	50.0	17
PARTICIPATION	64.5	+2.7	47.9	19
RIGHTS	50.7	+0.4	46.8	28
GENDER	66.7	+7.8	55.4	12
SUSTAINABLE ECONOMIC OPPORTUNITY	54.8	+7.8	42.9	11
PUBLIC MANAGEMENT	54.3	+2.0	42.2	11
BUSINESS ENVIRONMENT	52.9	+10.4	39.7	11
INFRASTRUCTURE	48.0	+17.8	39.1	14
RURAL SECTOR	63.9	+1.0	51.5	9
HUMAN DEVELOPMENT	63.8	+8.0	55.0	12
WELFARE	55.1	+11.9	47.4	16
EDUCATION	61.8	+2.8	47.9	12
HEALTH	74.5	+9.2	69.6	18

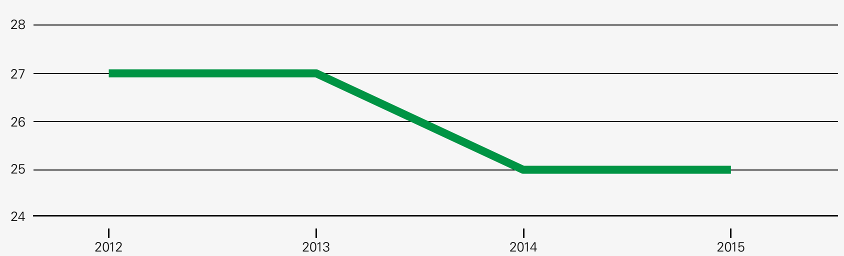
FRASER INSTITUTE INVESTMENT ATTRACTIVENESS INDEX

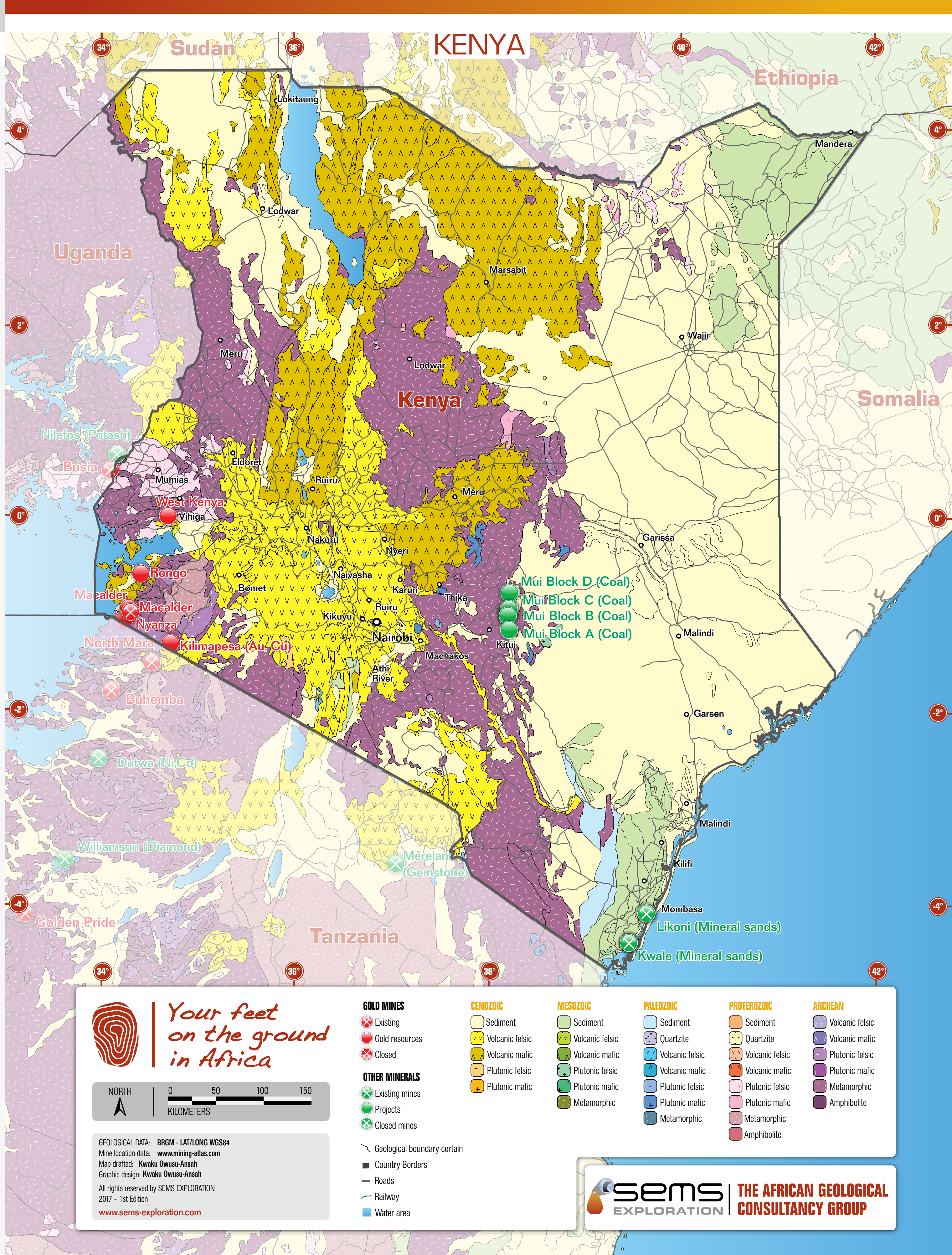
SOURCE: FRASER INSTITUTE



TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTIONS INDEX

SOURCE: TRANSPARENCY INTERNATIONAL





Hon. Dan Kazungu

Cabinet Secretary,
Ministry of Mining
Kenya

What are the key priorities for the Ministry of Mining with regards to the mining sector in the country?
The government's immediate priority is to ensure that we have an adequate policy framework, legislation and fiscal regime in place in order to facilitate the development of the mining sector in Kenya. At the moment, mining represents only 1% of GDP, and we expect to see a significant increase in the next decade.

In May 2016 a new Mining Law was approved by the Parliament. Could you elaborate on the significance of this legislation?
With this new act we move away from the Mining Act of 1940 to a living document with the potential to adapt and amend according to arising challenges. Kenyan mining law is the most progressive mining law in the whole of Africa. Additionally, this code aligns itself with three very important laws and policies. Firstly, the law aligns itself with the African mining vision. Secondly, it aligns itself with Kenya's Constitution, which was passed on in 2010. Lastly, it fits within Kenya's vision for development of the country - Vision 2030.

Kenya, with a very short history of mining, remains a largely unexplored country. What initiatives is the government implementing to bridge the information gap and provide access to geological data?
It is of utmost importance to have credible data on our mineral deposits. The Kenyan government launched a project called 'Project Tai', with 'Tai' meaning 'eagle' in Swahili. The aim of the project is to conduct a national airborne geological survey, in which we will use airplanes to scan for minerals both inland and off-shore. We budgeted approximately $3 billion for this project, and are considering increasing this amount as we believe in the importance of this project.
The project is set to begin before December 2016, and we have a team of 16 top geologists in the country to do the job. In order to ensure that the results are precise and relevant to potential investors, we are also looking to invite international specialists to help us carry out the survey. Moreover, we are working together with the British Geological Survey (BGS), which has access to previously collected geological data from Kenya. These files will be handed over to the ministry and added to the database.

What training is available to Kenyans looking to join the mining sector?
We are aware that we need to focus on developing human capacity and build our own educational and training institutions to support the mining sector as a whole. We are currently relying heavily on South African, Australian and Canadian professionals to take up the strategic roles within the sector. Naturally, we would like to see more Kenyans taking up important roles in the mining industry.
We want to re-structure the Institute of Geological Sciences, part of the University of Nairobi, into the National Institute of Mining. In addition, we plan to focus on TAITA TAVETA University College, which has received a lot of support from German universities, and we expect it to become the next center of excellence for human resources in mining, educating mining engineers, designers, geologists, economists, and so on.
We are also working to develop practical technical training courses on mining in Technical Training Institutes (TTIs) established in mining counties, to raise the capacity for local technical expertise.
Kenya has put a bid to host the African Union (AU) African Mineral Development Centre to position itself as a pan African Centre for mining policy training on mining across the continent.

What is your final message to the potential investors?
The Kenyan Ministry of Mining strongly believes that, with the right strategy in place, along with proper regulatory and legal frameworks, easy access to geological data, skilled professionals, and an institutional fiscal regime that is both competitive and attractive, the mining industry will show solid development and growth. According to Kenya's constitution, mineral wealth should benefit Kenyans, and we strongly believe that our strategy should embrace this message.
We want to encourage investors to come to Kenya and are looking for responsible mining companies in particular. We want to build relationships and help these companies set up and develop their operations in Kenya. Kenya's journey is only in its beginning stages, but we believe that we will reach our goals and turn mining into a booming industry in the country. •

Is Kenya the next mining frontier?

By Laura Brangwin, Catherine Howe and Imara Salas

Whilst mining has historically not been a core area of focus within Kenya's economy, representing only 1% of GDP, the country's relatively nascent sector is set for transformation as the government pushes for development and attracting investment. The third largest producer of soda ash worldwide and seventh of fluorspar, Kenya is also home to a large cocktail of minerals but has been relatively underexplored up to this point. With occurrences of minerals including gold, coal, iron ore, niobium, titanium, limestone, manganese and gemstones, the Kenyan government estimates recent discoveries to be worth US$62.4 billion.

Kenya is the ninth largest economy in the Sub Saharan Africa region, achieving growth rates of above 5% for the last few years and with growth projected at 6% in 2017 by the World Bank Group. With its market-based economy, favourable geographical situation and liberal foreign trade policy, Kenya is widely regarded as a regional trade and finance hub within East Africa. Having set the ambitious target to develop the extractives sector to account for 10% of GDP by 2030, the government seems to be on the right track in creating a transparent and favorable investment environment, while setting the foundation for sustainable growth. Kenya's current Cabinet Secretary for Mining, Hon. Dan Kazungu, is particularly enthusiastic about driving business and investment in the sector, seeking to make all the necessary provisions to increase the appeal of the opportunity. Kazungu's six pack model includes a 20-year mining strategy, the new mining act, a stable fiscal regime and mining framework, and the airborne geophysical survey. The new mining act in particular, alongside open dialogue with the private sector, will assist in maintaining an attractive and sustainable environment, whilst the airborne survey will begin to fill in gaps in the data.

Having no restrictions on capital outflow is a huge plus point for investors, and the ease of doing business has been greatly improved by a simplification of processes and the government's move towards uniformity and clarity. •

Joe Schwarz

General Manager, Base Titanium

Base Titanium is a wholly owned subsidiary of Australian registered and dual listed Base Resources (ASX & AIM: BSE), primarily focused on the Kwale Mineral Sands operations in Kenya. Could you provide some insight into the project's current status and expectations going forward?

Base Titanium acquired the Kwale project assets in 2010, currently its sole operating mine, which it successfully financed and developed into Kenya's flagship mining operation. Mining commenced in October 2013, and the first export shipment left Mombasa in February 2014. In terms of value, the contribution of Kwale exceeds that of the rest of the mining industry in this country combined. However, we have a limited life of mine, with a total of 13 years. To leverage our well-developed infrastructure, we are now embarking on a program of near-mine regional exploration in order to identify additional resources that will increase the life of mine beyond the remaining eight years. We carried out an airborne geophysical and radiometric survey in June 2015 along the coastal strip from Mombasa to the Tanzanian border and, after identifying a number of interesting anomalies, have procured exploration tenures.

There is currently a big drive towards the promotion of Kenya's mining industry. How has the government endeavored to make the sector more investor-friendly?

The Ministry of Mining is working hard to create a new, more investor-friendly environment by updating its mining policy and legislation. Obtaining prospecting licenses has become much easier with the recent introduction of an online mining cadaster, which also features a public interface showing the location and ownership of all existing licenses. Applications can now be uploaded directly, making the process much more efficient and transparent. This is a major development in bringing exploration management into the modern era.

In what ways has the Kwale project benefitted the surrounding region?

Over the life of mine, our overall contribution to GDP is estimated at US$1 billion. Our contribution to export revenues is about US$120 million a year, and this figure could rise significantly if mineral sand prices continue improving. We have also spent $7 million so far on our community programs, including social infrastructure, livelihood enhancement, health and education. Last financial year we expended 34,000 training man-hours at an investment of $750,000. In addition to on-the-job internal training, we also run formal external schemes including apprenticeships, graduate programs and internships.

A key philosophy is maximizing local content; we prioritize employment opportunities for locals and derive most of our inputs from Kenyan suppliers. A recent independent study conducted by Ernst & Young on the Kwale operation quantified the positive impact the project is having on the local economy. Of the $310 million total capital expenditure to construct the project infrastructure, $106 million was spent in Kenya with local suppliers. We spend US$45 million annually on non-labor inputs, 84% of which is procured from Kenyan suppliers. There are also many indirect and induced benefits arising from the operation.

How do you support training and progression for employees?

Our training and skills transfer programs are designed to systematically address existing knowledge gaps and enhance skill levels of our employees. This is run in conjunction with a succession plan aimed at progressively replacing expatriates with homegrown skills. Since February 2014, the expatriate complement has been steadily reduced from 65 to 37 today. In fact, we recently appointed one of our Kenyan engineers on a short-term expatriate assignment at the Base Resources office in Perth. This is both a clear indication of Base investing in local talent and also evidence of the high caliber of the Kenyan workforce.

Do you have a final message regarding Kenya's mining industry and the future of Base Titanium?

As the country's flagship mining operation, Base Titanium is working collaboratively with the Ministry of Mining to demonstrate what can be achieved in developing Kenya's mineral resources. We look forward to further nurturing that relationship as the government works towards attracting new investment in the sector and as Base Titanium looks to add value to the sector by extending the mine life at Kwale. We look forward to seeing more exploration taking place in Kenya as commodity markets improve over the coming years. We believe Base Titanium has set the blue print for investment in Kenya's mining sector with regards to safety, employment, training and environmental management and as a development partner to our local communities. •

2016 Mining Act

> Kenya's business environment is coming out of a time filled with a lot of anxiety and legislative concerns, and we are now in an environment in which we feel confident and can start modelling our investment proposals with much more security.
>
> - Jackson Mbui,
> Managing Director,
> Tata Chemicals Magadi

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The 2016 mining act has been the first step in establishing an easily navigable system for investors to operate within, whilst at the same time demanding sustainable sector development. The first major revision since the 1940s, Kenya's new mining act provides a much-needed update, particularly under a new constitutional order. "The previous act was very opaque regarding timelines, requirements and conditions of grant for mining licenses, with a very rudimentary compliance and enforcement structure," explained Wangui Kaniaru, senior associate at Anjarwalla & Khanna, East Africa's largest corporate law firm. "Post-independence, the changes in the market meant the legislation was lagging the commercial reality on the ground."

The new mining act seeks to implement international best practices and add clarity across policy, regulations and community management, whilst ensuring that mining activities bring benefits to Kenyan citizens. Assigning ownership of minerals in trust for the people of Kenya to the national government, the implementation of new policies seek to balance investor interests with allowing the country to benefit from its mineral wealth.

However, because the act is modelled on legislation from more mature mining jurisdictions, it still needs to be adapted somewhat to its local context. Commenting on the 10% government carry, considered premature for a relatively new industry by many, Dominic Rebelo, partner at Anjarwalla & Khanna, voiced: "It also conflicts with certain other acts, such as the Companies Act, which does not allow for the issuance of unpaid shares in a public company. There are also issues over the requirement to list 20% of shares within three years of production – this sounds great, but only really works with a developed public market for natural resources, which Kenya does not have."

Some of these requirements may even counter some incentives to invest in exploration, the necessary first step towards discovery. "The tax and fiscal regimes can create an incentive if companies are able to offset potential financial loss in unsuccessful exploration against other incomes. This would encourage companies and individuals to take the risk," commented Denis Kakembo, senior tax manager at Deloitte East Africa. "The general overriding question the government should ask is whether they are taxing profit or investment. If tax is deducted from the intended investment, the money available for investment is greatly reduced."

The key will be to maintain a system of open dialogue to optimize the environment and achieve a sustainable balance. Nevertheless, companies such as Base Titanium clearly demonstrate that the environment is operable and are extremely positive about the opportunity and potential for success.

> Land in Kenya and anywhere in the world is always a very sensitive subject and has to be treated with a lot of caution.
> The New mining act is very clear on how land acquisition should be handled. However, we must involve the local communities in every step of the way.
>
> - Kimani Wainaina,
> Executive Director,
> Ken Coal

Greater transparency and efficiency

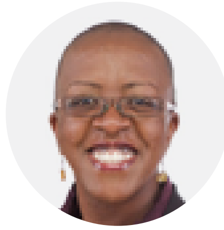
Along with a clearer and more stable framework, greater efficiency in terms of processes has also been a focus of the government and the Kenya Chamber of Mines. The recent implementation of an online mining cadastre has streamlined license application processes, for example. Equally, the establishment of a Mineral Rights Board to advise the Cabinet Secretary on matters pertaining to mineral rights agreements will take away some discretion from the Cabinet Secretary, and will be a contributing factor to supporting good governance of the mining sector.

Quantifying potential and gathering data

Whilst stability and a favorable investment climate are hugely important when considering entering a new market, even more important is the ability to assess the resource and size of the opportunity. The government has committed funds to carry out country-wide airborne geophysical surveys, and awarded the contract to IGS in December 2016. IGS, a U.K.-based geoscience consultancy company, will lead the project in partnership with PGW of Canada. "It is of utmost importance to have credible data on our mineral deposits," commented Hon. Dan Kuzungu, Kenya's Cabinet Secretary for Mining. "We budgeted approximately US$3 billion for this project, and are considering increasing this amount as we believe in the importance of this work."

The Kenyan government will also receive previously collected geological data from the British Geological Survey (BGS). However, these are only the first steps in proving the potential of Kenya's mineral resources, and additional work will have to be done to reassure investors that the opportunity is secure enough to garner investment. •

Existing production and exploration



“Some of the improvements in the new Act relate to timelines for issuance, with license applications now online and trackable at each stage. The online cadaster will also show quite transparently what areas are available for prospecting and mining activity.

- Wangui Kaniaru,
Senior Associate,
Anjarwalla & Khanna”

...

Despite an unfavorable historic perception of mining investment into Kenya due to examples of capital loss with companies such as Red Rock Resources, African Queen, Tiomin and Wildcat/Cortec, there are several successful and promising projects suggesting better prospects for new investors. "Kenya's business environment is coming out of a time filled with a lot of anxiety and legislative concerns, and we are now in an environment in which we feel confident and can start modelling our investment proposals with much more security," said Jackson Mbui, managing director of Tata Chemicals Magadi. "We need this predictability in order to invest further with a sense of how our operation will develop in the long run."

Tata Chemicals Magadi is one of Kenya's largest exporters, with roots that can be traced back to 1902 and business valued at US$90 million. The company has access to the only replenishable trona resource worldwide.

Meanwhile, Base Titanium is Kenya's most prominent new player, having acquired the Kwale project assets in 2010 and commenced mining in October 2013. Over the 13-year life of mine, Base Titanium's contribution to GDP is estimated at US$1 billion, with contributions to export revenues estimated at upwards of US$120 million a year. Placing a great deal of emphasis on sustainability and investment into the region, Base Titanium seeks to set the standard for future investors. "As the country's flagship mining operation, Base Titanium is working collaboratively with the Ministry of Mining to demonstrate what can be achieved in developing Kenya's mineral resources," stated Joe Schwarz, Base Titanium's general manager. "We believe Base Titanium has set the blue print for investment in Kenya's mining sector with regards to safety, employment, training and environmental management and as a development partner to our local communities."

Acacia, primarily focused on Tanzania, has also turned its attention to Kenya, with an exploration project on the same greenstone belt as is prevalent in northern Tanzania. "As part of the drill testing we identified the Liranda Corridor, near Kakamega, which has become the focus of our activities as we believe we have discovered and confirmed three shoots of high grade gold mineralization along a 9km corridor, with a further 4 prospects still to thoroughly test," outlined Peter Spora, Acacia's head of exploration. "We are in the process of completing a 40,000 m diamond core drilling programme with six rigs active on the Liranda Corridor project, with the aim of delineating an initial resource in Q1 2017."

Other notable operations in the country include Karebe Gold, Kilimapesa Gold and East African Copper. •

“We are encouraged by the progress to date but, in order for the mining industry to be developed, it is vital that the regulatory environment for the likes of permitting, tax, royalties and employment is stable and practical to ensure that all of our stakeholders benefit from the investments.

- Peter Spora,
Head of Exploration,
Acacia”

Balancing investor and country interests

...

Although investors may be taken aback by aspects such as the 10% free carried interest acquired by the state or the requirement for the listing of 20% of the equity of large-scale projects, it is nevertheless essential for Kenya to balance the interests of all parties in order to develop the sector sustainably. "It is always going to be a system of trade-offs, and some adjustments have to be made when considering particular jurisdictions. Developing countries have an imperative to create jobs and wealth for their citizens," asserted Jean Githinji, senior manager at KPMG.

Cohesion between parties, from the government and Chamber of Mines to investors and local communities, is key in realizing the sustainable development of the sector. "As an industry, we are concerned about the relationship between the different levels of government," said Lojomon Biwot, chairman of the Kenya Chamber of Mines. "The minerals are held by the people of Kenya, but held in trust by the national government. This area needs to be harmonized so investors do not face challenges. Collaboration and transparency are crucial. In a market with so many unpredictable factors, we need as much security and predictability as possible."

Land rights can be problematic, and the new mining act goes some way to addressing these and providing clarity. "Land in Kenya and anywhere in the world is always a very sensitive subject and has to be treated with a lot of caution," commented Kimani Wainaina, executive director of Ken Coal. "The New mining act is very clear on how land acquisition should be handled. However, we must involve the local communities in every step of the way."

The junior exploration company is currently in the process of raising capital to undertake core drilling, having recently intercepted coal, gold and copper.

However, the mining act requires landowner consent even for obtaining a license. Highlighting the difficulty in getting consent from individual landowners across the huge areas over which exploration licenses may be granted, Rainbow Field, director, Kenya at Bowmans, stated: "We will hopefully see this provision reviewed and revised shortly. I expect a number of foreign mining investors to hold back and wait to see whether the current issues surrounding the new mining act will be ironed out over the next year or so." •

“If we can iron out the issues with the new Mining Act, the next 18 to 24 months should be an exciting time for us. I think the new Cabinet Secretary has the opportunity to turn the sector around because of his enthusiasm and the fact he has gained the trust of a lot of mining companies.

- Rainbow Fields,
Director, Kenya,
Bowmans”

Local support capabilities

There are a number of service companies operating in Kenya with an excellent reputation, strong capabilities and extensive local knowledge. Panafrican Group, for example, is a major player in East Africa, providing and supporting mining equipment, and distributes Komatsu and Wirtgen brands. "A large part is knowledge of the environment and having a clear understanding of what is really possible, how long it will take and what it is going to cost," commented Gregory Jackson, regional manager at Panafrican Group. "There is a lot of excitement in Kenya and on top of that excitement there are a lot of resourceful people in this industry with a good problem-solving attitude. There is a very strong entrepreneurial spirit, so there are a lot of good partners to work with here."

Another well-established company is Akili Mineral Services (AMS), a turnkey company set up in 2012, covering all aspects from assistance in the licensing process through to the prospecting and development phases, and mine planning. "We have a unique status here as the only company that knows Kenya from the prospecting point of view and at the same time is familiar with the intricacies of working in an African country," asserted Tom James, AMS' director. "We have a market lead and first mover status still, even after six years, which makes a huge difference to how we can go forward – we are still the only local multi-competence exploration services company."

With 40 trained personnel across the disciplines of geophysics, drilling, geology and other areas, James and co-director Dr. Cedric Simonet have extensive local expertise and offer a highly scalable service.

Companies place an increasing emphasis on partnerships, customized solutions and ongoing support, which could be a challenge for foreign service companies without an extensive local network and knowledge. "Today, in this digital world, it is possible to source technology from anywhere, but the technology has to be promoted, installed and commissioned, plus training provided with adequate support - there is no advantage without the right implementation," commented Subash Ambidy, general manager at Vision Scientific & Engineering, a company offering scientific and engineering services across cement, mining, soil science, and many other industrial segments. "There are also many foreign companies supplying the industry that then face challenges in providing timely solutions to unforeseen complications. Time and cost reduction are vital, as well as productivity, and we deliver in all these areas."

The company also has a strategic partnership with the Kenyan Ministry of Mines, and has supplied four handheld XRLs and a multi analyzer, providing training and aftersales support.

However, particularly because Kenya's mining sector is relatively nascent, the country has not had time to develop some of the necessary skills, expertise and technology in country to support mining operations. Equally, the support required is often on too large a scale for local communities. Recognizing Kenya's potential to be a regional hub for mining support services, the government intends to support the development of these capabilities. Hon. Dan Kazungu assured: "We are aware that we need to focus on developing human capacity and build our own educational and training institutions to support the mining sector as a whole. We are currently relying heavily on South African, Australian and Canadian professionals to take up the strategic roles within the sector. Naturally, we would like to see more Kenyans taking up important roles in the mining industry."

Companies do, however, recognize the high calibre of the Kenyan workforce, and the excellent results achievable with investment into training. "Our training and skills transfer programs are designed to systematically address existing knowledge gaps and enhance skill levels of our employees," said Joe Schwarz, Base Titanium's general manager.

The company is aiming to replace expatriates with locals, with an increase in the percentage of Kenyan employees from 46% to 74% from February 2014 to the present. This includes an increase in the percentage of Kenyans in management positions from 14% in February 2014 to 36% today.

The government plans to focus on the Taita Taveta University College, with a move to offer specialized mining courses, and also plans to restructure the Institute of Geological Sciences, part of the University of Nairobi, into the National Institute of Mining. •

Energy and infrastructure

Kenya's Vision 2030 is underpinned by infrastructure development, building on the country's position as East Africa's leader in this area. Out of the KES 169.5 billion allocated to infrastructural projects, Kenya's 2016 budget allocates KES 5.5 billion for the Mombasa Port Development project and KES 154 billion towards the nationalization of the Standard Gauge Railway (of which China will contribute KES 118.2 billion) as highlighted in Deloitte's Kenya Budget Highlights 2016. Kenya is already in a good position to benefit from EAC integration, and the government plans to focus on the development of the Lamu Port – South Sudan – Ethiopia – Transport Corridor (LAPSSET), further cementing the country's position as a logistical hub within the East Africa region. The East Africa road network will also be an area of focus to boost regional trade.

The goal to generate 5,000 MW of power by 2017 is equally crucial in supporting the projected increase in industrial demand. Renewable energy is becoming a more viable and attractive option as generated electricity becomes increasingly competitive with grid prices. "This is a major game changer globally, and for the first time there are clear financial motivators alongside sustainability drivers. The uncertainty associated with grid and fossil fuel pricing also makes renewables projects more appealing as the pricing is fixed for the lifetime of the project," argued Frank Spencer, business development, renewables at CONCO Group.

Citing the requirement to purchase the energy upfront as the main challenge due to the uncertain lifetime of many mining projects, Spencer continued: "Renewables power plants typically require at least a ten-year power purchase agreement or longer. A reduction in the contract time increases the price, and then the investment doesn't seem as financially rewarding. The main driver for the adoption of renewables in the mining sector will therefore be an increase in commodity prices. Mines will adopt renewables into their projects as companies begin to feel more comfortable that they will be around for a longer time."

Whilst there are certainly improvements to be made, the projects in the pipeline are reassuring to many investors and promising to existing industry participants, as iterated by KPMG's Githinji: "This is a frontier market, and investors have to be clear on their appetite for risk and whether their view is long term or short term. However, investors have entered other industries under much more challenging circumstances." •

Image: Base Titanium

Artisanal and small-scale mining

“There is a strong opportunity for collaboration, potentially with investors setting up equipment hubs to support the individual or grouped miners in providing either subsidized equipment or aggregated purchase and processing of the gemstones for global markets in Asia, Europe and America. This could be a safer bet for investors, because equipment or the final mineral product can be viewed as a more secure investment than the unquantified mine asset.

- Majala Mlagui,
CEO,
Thamani Group Ltd”

The presence of artisanal mining operations has long presented a challenge to investors and local governments. If the scope of the operations and their output could be captured, there could be a potentially huge increase in the returns from the sector. “Artisanal and small-scale mining is the future of the country when considering the strengths within the sector,” claimed Moses Njeru, CEO at the Kenya Chamber of Mines. “If not addressed, this type of mining could be negative for the big explorers, because they will destroy the geology. However, if we are able to assist these artisanal and small-scale miners in formalizing their operations to become strong entities with an economic base, we will get more from the mining sector as a country.”

The Kenya Chamber of Mines has established six initiatives regarding the protocol against illegal exploitation of natural resources, and the formalization of informal mining activities is one of these. “We are also coming up with training programs to eradicate the use of mercury in mining activities, ensure miners’ proceeds are channelled into meaningful investments, and that their methods are sustainable and efficient, and so on,” added Njeru.

The 2016 mining act has gone some way in addressing the challenges of artisanal mining by formalizing activities.

Increasing return from the gemstone industry

Accounting for over 60% of annual gemstone production in Kenya, artisanal miners are largely inexperienced when it comes to market valuation and optimizing operations, and lack access to advanced technology and machinery.

A large portion of gemstones are traded informally, and many artisanal miners do not have access to fair-trade distribution. Equally, getting the stones to market at all can be a challenge for small-scale operators, particularly in an industry with a historically negative perception. Because there is currently no valuation procedure, gemstones are exported without appropriate taxation or correct valuation, which means both miners and the government lose out financially. Equally, because of the lack of value addition, Kenya is missing out on revenue that could be captured in-country. Kenya’s Ministry of Mining is, however, hoping to reduce the amount of raw gemstone exports with measures such as the establishment of a gemstone center in Voi, which is on track to open in mid-2017.

Set up to help artisanal miners find a market for gemstones, Thamani Group is focused on educating and disseminating information, and providing a voice for the miners. Established in 2012, the initial vision of the company was to educate on mineral knowledge, sustainable practices and regulatory frameworks and policies, and to provide value addition. The company also sought to facilitate access to capital and investment, and work on fair-trade distribution of the gemstones and create an awareness of colored gemstones particularly in the local African markets. As the mining act was being reviewed, the focus shifted from trade to policy and advocacy issues, and providing a voice for the miners unable to participate in these conversations. “We are deeply invested in unlocking value, not only for the communities we work in and the ASM operators that we work with, but also for the larger local and international gemstone market,” said Majala Maglui, Thamani Group’s CEO and founder.

Thamani Group has also partnered with the World Gem Foundation to provide affordable online career-oriented courses through the Kenyan Gem Academy for those interested in the gemstone industry and gemological education.

“Whilst most gemstones are mined in Africa, we are always seen at the lower end of the chain,” commented Diana Atieno, founder and managing director at Porini Gems. “Other countries present a glamorous façade even though 60% to 70% of their gemstones came from Africa, and I would like to see African countries in general up their game and move from being solely producers to manufacturing and consuming.”

Porini Gems mines tsavorite and tourmaline, but also trades other gemstones sourced from across East Africa, including tanzanite, diamonds, sapphire and rubies. The company attends many exhibitions and trade shows worldwide to raise the profile of gemstones sourced in Africa. Porini Gems also plans to work with higher learning institutions and experts from institutions such as GIA and AGL to develop gemology courses within curriculums.

Taita Taveta University, which recently received its full university charter status, is also pushing to become a center of excellence in mining education and training. •

Conclusion

Meeting ambitious targets: growth to 10% by 2030

Image: Base Titanium

“From a fiscal standpoint, the rules should be quite strict but at the same time the government should probably reduce rates and make the mining tax legislation more stable and predictable. After all, Tanzania is competing with other African countries – if investors do not find the country attractive, they will simply go elsewhere.

- Dmitry Logunov,
Deloitte”

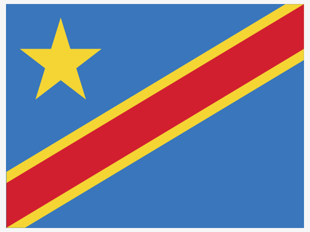
Whilst the target is certainly very ambitious, it is not impossible, but does, however, hinge on the quality and quantity of available resources. The airborne geophysical survey will help somewhat in this assessment, but there is still a way to go before many investors will be confident enough to enter the market.

“Doing the survey is not a guarantee that mining will suddenly take off,” asserted Rishon Chimboza, East & Southern Africa lead, extractive industries governance at Adam Smith International. “There is a chance that the commodities found in abundance are not really what is in demand, or that the geology in other countries offers better prospects.”

Many investors will hold off until the aspects of the mining act still under question are ironed out and they have a more concrete idea of the size of opportunity and resource. “Kenya is a new destination for mining and the mining act has only just been passed so there is some way to go before we have a definitive view on the investment climate for mining,” said Peter Spora, Acacia’s head of exploration. “We are encouraged by the progress to date but, in order for the mining industry to be developed, it is vital that the regulatory environment for the likes of permitting, tax, royalties and employment is stable and practical to ensure that all of our stakeholders benefit from the investments.”

New investors are already showing interest, with a number of service companies reporting that they have received a significant number of inquiries over the last six months. It is up to the government to protect the interests of the country and its local communities and balance these interests with investment incentives and a favorable environment. Investors have already begun to test the water, and it is simply a case of who will jump in first. •

Democratic Republic Of The Congo



Population: 81,331,050
Land area: 2,344,858 sq km
Official language(s): French
Head of State: President Joseph KABILA (since 17 January 2001)
GDP: $38.87 billion (2015 est.)
Growth rate: 7.7% (2015 est.)
GDP per capita (PPP): $800 (2015 est.)

SOURCE: CIA WORLD FACTBOOK

TAXATION RATES

SOURCE: PWC

Corporate Income Tax Rate

30% - 34%

Royalties

Copper, Iron ore, Coal: 3%
Gold 5%

MINING SECTOR CONTRIBUTION TO GDP

SOURCE: AFRICAN ECONOMIC OUTLOOK

2013

12%

FOREIGN DIRECT INVESTMENT

SOURCE: UNCTAD

FDI, $ millions

2014	1,051
2015	1,437

MINERAL PRODUCTION (2014)

SOURCE: British Geological Society

Diamond	14,663,000 carats
Cobalt	76,475 mt (metal content)
Copper	1,065,744 mt
Gold	36,000 kg

BUSINESS ENVIRONMENT RANKING IN AFRICA (OUT OF 48)

SOURCE: WORLD BANK

	2015
Ease of Doing Business	44
Starting a Business	13
Dealing with Construction Permits	14
Getting Electricity	36
Registering Property	30

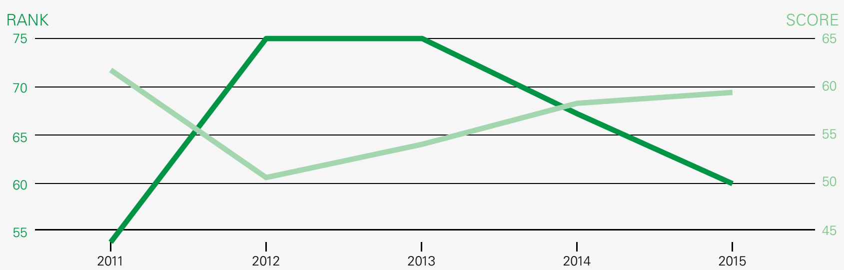
IBRAHIM INDEX OF AFRICAN GOVERNANCE

SOURCE: MO IBRAHIM FOUNDATION

	2016	change since 2006	Africa average	Rank / 54
OVERALL GOVERNANCE	**35.8**	+2.7	50.0	46
SAFETY & RULE OF LAW	**31.0**	+1.5	52.1	49
RULE OF LAW	**36.4**	+6.0	52.7	44
ACCOUNTABILITY	**26.2**	+13.1	35.1	38
PERSONAL SAFETY	**15.6**	-10.4	45.7	50
NATIONAL SECURITY	**45.6**	-2.9	75.2	48
PARTICIPATION & HUMAN RIGHTS	**36.2**	-0.5	50.0	42
PARTICIPATION	**32.1**	-1.6	47.9	33
RIGHTS	**33.1**	-0.4	46.8	39
GENDER	**43.5**	+0.6	55.4	42
SUSTAINABLE ECONOMIC OPPORTUNITY	**29.0**	+4.4	42.9	47
PUBLIC MANAGEMENT	**38.9**	+9.6	42.2	36
BUSINESS ENVIRONMENT	**26.0**	+2.3	39.7	43
INFRASTRUCTURE	**15.0**	+3.0	39.1	51
RURAL SECTOR	**36.3**	+2.9	51.5	47
HUMAN DEVELOPMENT	**47.0**	+5.4	55.0	42
WELFARE	**34.2**	+6.6	47.4	48
EDUCATION	**44.4**	+8.2	47.9	31
HEALTH	**62.4**	+1.4	69.6	43

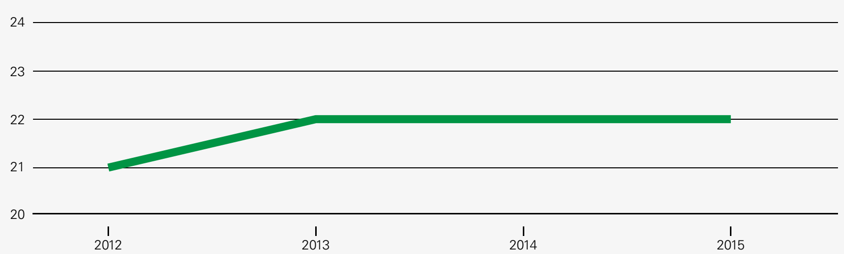
FRASER INSTITUTE INVESTMENT ATTRACTIVENESS INDEX

SOURCE: FRASER INSTITUTE



TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTIONS INDEX

SOURCE: TRANSPARENCY INTERNATIONAL



Mark Gasson

Exploration Manager, Amani Gold

Burey Gold has been renamed Amani Gold. Could you introduce the company and explain the reason for moving to the Democratic Republic of Congo?
Burey Gold was originally based in Guinea, however, with the Ebola outbreak and the low grade of those tenements we decided to look elsewhere. Our chairman, Klaus Eckhof, was the founder of Moto, which is now Kibali, and this led us to focus on what we see as the DRC's most prospective belt. Both Klaus and I have long term experience in the DRC; with Tiger Resources at Katanga we were involved at the discovery stage. We were also instrumental in the acquisition and discovery of Alphamin Resources' high-grade tin deposit near Walikale where 250,000 mt of tin at a grade at 4.5% have been identified so far.

Could you provide a brief history of the Giro project and the current stage of exploration?
At Giro, the Belgians mined there until 1962 with a focus on high grade quartz veins and alluvial production. The Belgians also mined laterite nearby where we decided to drill a number of exploratory holes. Drilling uncovered a very good broad zone of mineralization from surface, which was associated with silica flooding and pyrite and little quartz veining. It is mineralized down to 250m. There has been over 22,000m of diamond, RC and scout drilling completed on the Giro project. For Kebigada, we have engaged MSA from South Africa to do the resource calculation. They recently completed a site visit, so we expect to get our first resource out in early 2017. We carried out a gold deportment study and received fantastic recoveries of around 90% with simple gravity and cyanide leaching, so it is ticking all the boxes.

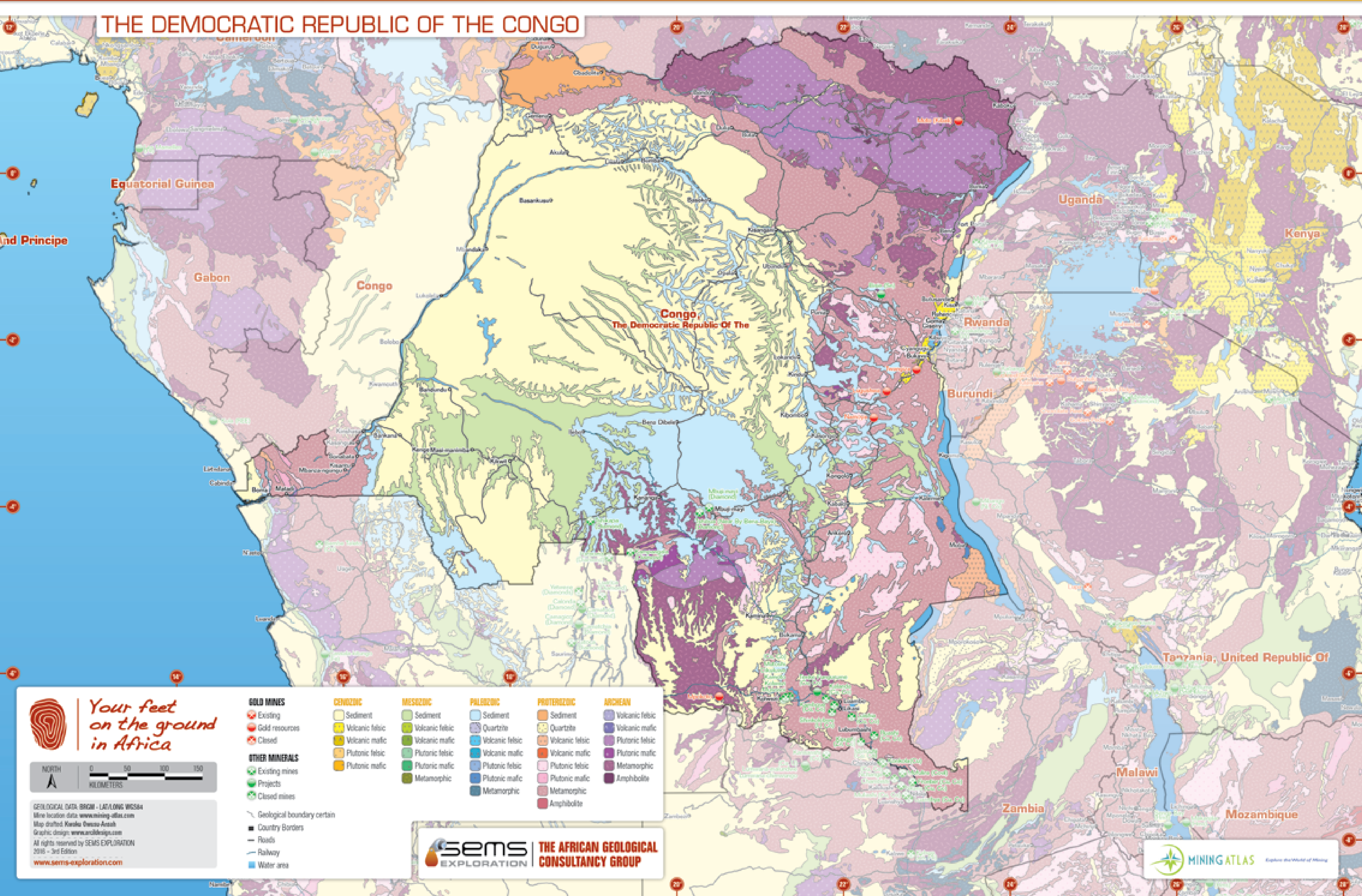
Could you give us an insight into the relationship with your shareholders and the recent capital raising?
We drilled a new area around June and received spectacular results. On the back of this and a change in the market sentiment and gold price, JP Morgan invested $5 million, with Dynamic from Canada bringing in another $5 million. With our capacity to raise 25% in total we were oversubscribed, so could only raise $13.5 million, even though we had subscriptions for $28 million. Everything happened at the right time.

Could you provide more details about your exploration strategy and engagement with local service companies?
We had a dual approach; to drill test the areas that we knew and then blanket soil sample the remainder of the project area to identify new targets and areas to drop off to save on permit costs. Soil sampling is labor intensive and we employ as many of the local people as possible in our operations. There was not an accessible road before we started in the area. We refurbished the road and since then many service industries and shopkeepers have been flooding in. On the community side, we have built a school and a clinic, all low cost at this stage. The school is positioned away from the main Giro deposit, so that we can draw the people away from Giro, give them training and set them up with farming.

What is the end goal with Giro?

Klaus and I are geologists. We enjoy the exploration side. Once we have done the feasibility study you come to a crossroads where you either change the board and develop it yourself or to sell it. Moto was sold to Randgold but with Tiger, we changed the board and now it is a producing mine. We have no set rules, but we will either sell or develop Giro.

What would you say to investors looking to come to the DRC?
There has been an increase in joint ventures, for example Resolute has gone into JV with Kilo Gold. There are a lot of companies interested in lithium and tin. I think we are one of the few successful juniors in the area where there are a lot of people active but not to our extent. We have been operating in the DRC for a very long time and built up a really good network, so it is easy to have success. For someone coming in blind it is quite challenging. The best example of an attractive mining environment is from Kibali; they spent $ 1.8 billion, the mine was built ahead of schedule and below cost and it is the best producer at around $650/oz. •



THE DEMOCRATIC REPUBLIC OF THE CONGO
Congo, The Democratic Republic Of The
Congo
Gabon
Equatorial Guinea
Cameroon
And Principe
Uganda
Kenya
Rwanda
Burundi
Tanzania, United Republic Of
Zambia
Malawi
Mozambique
Your feet on the ground in Africa
NORTH
0 50 100 150
KILOMETERS
GEOLOGICAL DATA: BRGM – LAT/LONG WGS84
Mine location data: www.mining-atlas.com
Map drafted: Kwaku Owusu-Ansah
Graphic design: www.arcildesign.com
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GOLD MINES
Existing
Gold resources
Closed
OTHER MINERALS
Existing mines
Projects
Closed mines
Geological boundary certain
Country Borders
Roads
Railway
Water area
CENOZOIC
Sediment
Volcanic felsic
Volcanic mafic
Plutonic felsic
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MESOZOIC
Sediment
Volcanic felsic
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Metamorphic
PALEOZOIC
Sediment
Quartzite
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PROTEROZOIC
Sediment
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ARCHEAN
Volcanic felsic
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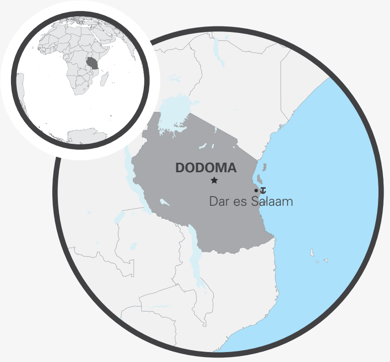
SEMS EXPLORATION
THE AFRICAN GEOLOGICAL CONSULTANCY GROUP
MINING ATLAS



Tanzania

Population: 52,482,726
Land area: 947,300 sq km
Official language(s): Swahili, English
Head of Government: President John MAGUFULI (since 5 November 2015)
GDP (PPP): $138.5 billion (2015 est.)
Growth rate: 7% (2015 est.)
GDP per capita: $2,900 (2015 est.)

SOURCE: CIA WORLD FACTBOOK

TAXATION RATES

SOURCE: PWC

Corporate Income Tax Rate

30%

Royalties

4% for copper and gold
3% for iron ore and coal

MINING SECTOR CONTRIBUTION TO GDP

SOURCE: AFRICAN ECONOMIC OUTLOOK

1997	2015
1%	3.7%

FOREIGN DIRECT INVESTMENT

SOURCE: UNCTAD

FDI, $ millions

2014	2015
2,049	1,532

MINERAL PRODUCTION (2014)

SOURCE: British Geological Society

Gold	40,598 kg
Coal	246,128 mt
Diamonds	252,875 carats

BUSINESS ENVIRONMENT RANKING IN AFRICA (OUT OF 48)

SOURCE: WORLD BANK

	2015
Ease of Doing Business	14
Starting a Business	25
Dealing with Construction Permits	22
Getting Electricity	1
Registering Property	22

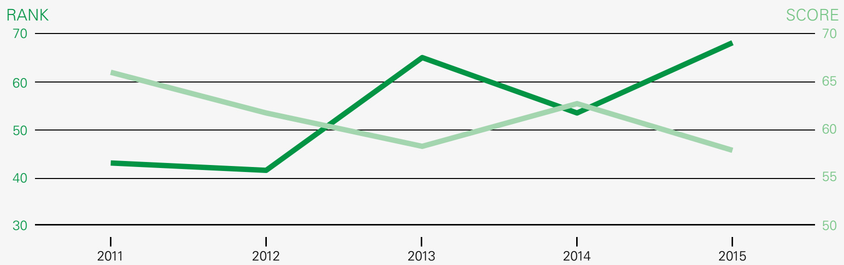
IBRAHIM INDEX OF AFRICAN GOVERNANCE

SOURCE: MO IBRAHIM FOUNDATION

	2016	change since 2006	Africa average	Rank / 54
OVERALL GOVERNANCE	56.5	-0.6	50.0	18
SAFETY & RULE OF LAW	60.4	-2.7	52.1	17
RULE OF LAW	59.4	-1.2	52.7	16
ACCOUNTABILITY	36.9	-8.3	35.1	25
PERSONAL SAFETY	54.3	-0.8	45.7	20
NATIONAL SECURITY	90.9	-0.7	75.2	13
PARTICIPATION & HUMAN RIGHTS	63.5	+1.0	50.0	15
PARTICIPATION	57.7	-0.9	47.9	25
RIGHTS	59.4	-0.9	46.8	16
GENDER	73.2	+4.7	55.4	8
SUSTAINABLE ECONOMIC OPPORTUNITY	46.8	-2.6	42.9	20
PUBLIC MANAGEMENT	49.6	-2.5	42.2	16
BUSINESS ENVIRONMENT	45.1	-4.1	39.7	22
INFRASTRUCTURE	31.9	+4.2	39.1	36
RURAL SECTOR	60.7	-7.7	51.5	13
HUMAN DEVELOPMENT	55.5	+2.1	55.0	25
WELFARE	53.5	+4.1	47.4	19
EDUCATION	44.1	-0.7	47.9	32
HEALTH	68.8	+2.8	69.6	31

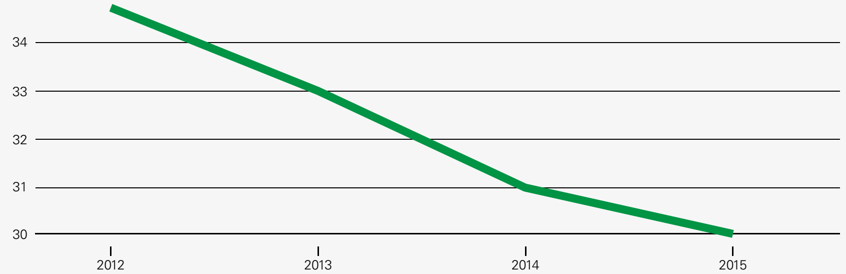
FRASER INSTITUTE INVESTMENT ATTRACTIVENESS INDEX

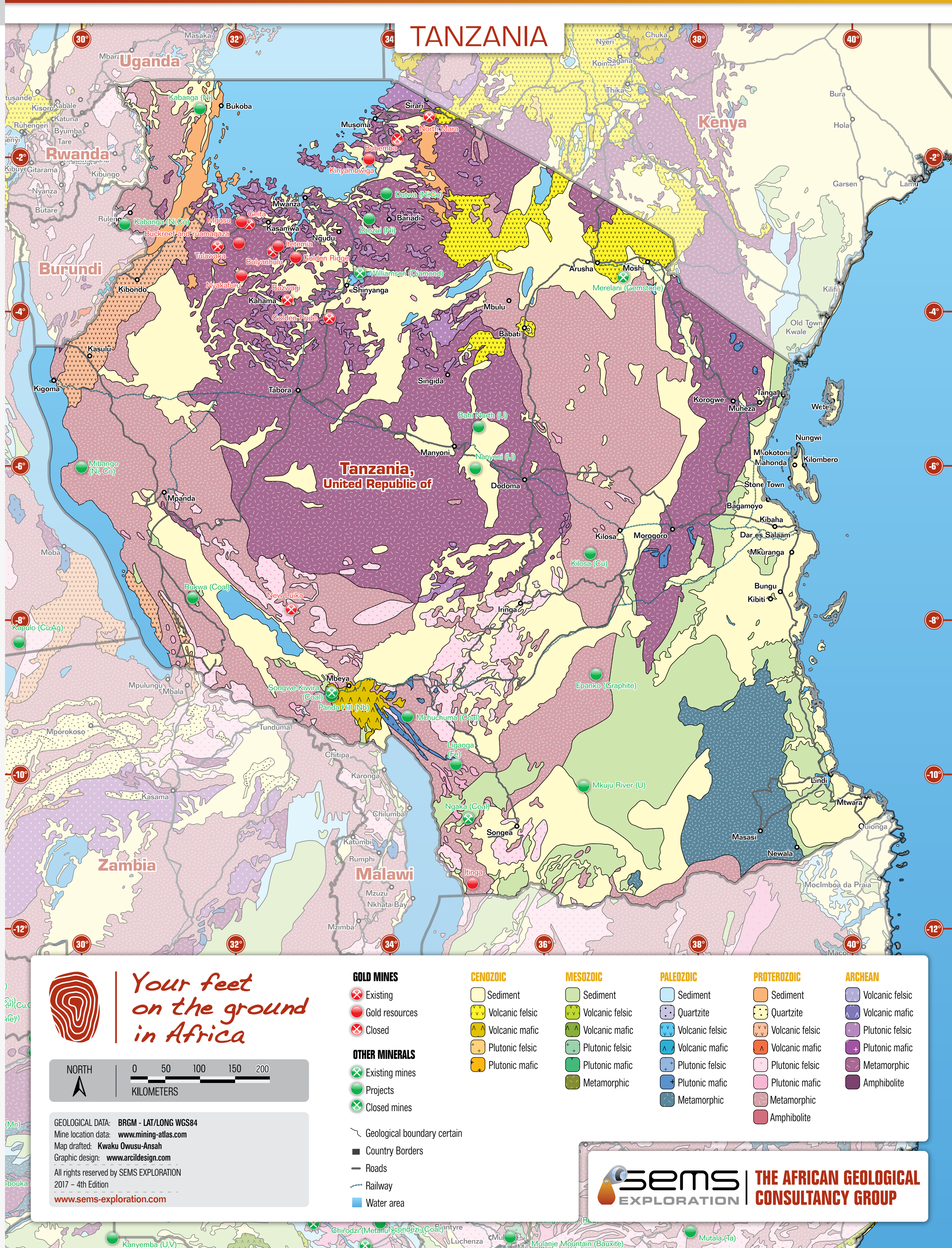
SOURCE: FRASER INSTITUTE



TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTIONS INDEX

SOURCE: TRANSPARENCY INTERNATIONAL





Julius Sarota

Acting Commissioner for Minerals

What have been the most important developments in the mining industry since Global Business Reports reported on Tanzania last year?

Over the past two decades the mining industry in Tanzania has been contributing 3.5% on average to GDP, but last year it jumped to 4.3%. The government aims for Tanzania's mining industry to contribute about 10% by 2025 as per the Development Vision 2025 and the 2009 Mineral Policy of Tanzania. In October 2016, the Minister for Energy and Minerals put in place a regulation cited as the Mining (Mining Shareholding and Public Offering) Regulation 2016, which requires the holders of special mining licenses to issue shares to the public and list on the Dar Es Salaam Stock Exchange.

Over the years the mining industry has been probably over 80% dependent on gold; since last year there has been a trend among investors to focus more on graphite and technology metals such as niobium.

In June 2016, the parliament passed into a law a Finance Act which brings a win-win aspect to both the public of URT and investors. In the extractive industries, it cements the aspect of ring-fencing projects for tax purposes as well as bringing in the aspect of reducing the administrative cost of tax payers by reducing the number of institutions to which tax payers must go to pay taxes or fees to a single point – the Tanzania Revenue Authority.

We have witnessed a renewed enthusiasm for mining gold in Africa. How is Tanzania benefitting from this trend?

We are still third in Africa in terms of gold production, although we do not have the exact figures yet for 2016. In 2015, we produced about 51 mt of gold, behind South Africa which produced about 168 mt and Ghana 104 mt. We have an estimated 45 million ounces of gold reserves, and the gold sector is expected to grow at a rate of 7.7% per annum in the short term.

However, we also need to note that since the global financial crises that begun in 2008/9, affecting exploration expenditures globally, we have not seen much expenditure from the gold multinational investors that we have here. However, we see much enthusiasm in gold from mid-tiers companies (medium scale exploration and mining companies). One opened a middle-sized gold mine in Butiama District, Mara Region, North East Tanzania, in the second quarter of 2016. There are also three middle-sized gold mines under construction, which are expected to start gold production in the second and third quarter of 2017. All are expected to produce between 25,000 to 40,000 oz/y. Artisanal and small–scale miners are also active.

How will government plans to develop infrastructure benefit the mining industry?

The government has decided to make the transport and the power sector in Tanzania reach another level. Within the transport sector, the government is constructing a standard gauge railway line from Dar Es Salaam port to Mwanza, on the northern circuit of Tanzania, which will then be extended to Burundi, Rwanda and DRC. On the power side, the government has made a decision to increase generation in a competitive way and is currently constructing a 400 kV power line that will link the existing and future power generation sources in the south and southwest of the country to the load centers in the Mwanza and Arusha regions in the north.

Such infrastructure developments will unlock the potential of the mining industry, particularly in the northern part of the country. The northern side of the country is currently the mining hub, so if they are receiving high quality, reliable and affordable power they will certainly increase their production. Projects such as Kabanga Nickel has been implemented in a sluggish manner due to poor transport infrastructure and lack of power in the project area. Availability of quality and reliable power as well as standard gauge railway line will reinvigorate the rather sleepy lion that is the Kabanga Nickel Project.

What are the plans and initiatives with which the Ministry intends to further develop the mining industry in Tanzania?

Our fundamental plan is to continue offering to investors (local or foreign) a competitive investing environment in terms of policy and legal framework, security of tenure, a friendly fiscal regime and independent judiciary system.

We will also continue to advertise ourselves through various means such as attending mining forums and using our foreign offices to promote our country's mining prospects and potential. •

Dr. Toby Bradbury

CEO,
Shanta Mining Company Limited

New Luika gold mine is Tanzania's third largest gold producer. Could you give us an overview into the mine's journey to production and latest developments?

The company was founded in 2006, with the intention to develop the Singida mine but subsequently, with the global financial crisis, Luika became the focus. Transitioning from a junior to a mining company was a challenge, however. Having started the plan in 2008, the mine finally got into full production in 2014.

At New Luika, we have very high-grade resources, we produce gold with a good operating team in place, and the mine is now delivering to its true potential. On top of that, we have brownfield exploration going on to expand the resource base and extend the mine life. We are in a very prospective area and I believe in 15 years time we will still be talking about New Luika finding more resources to keep the mine going.

Luika is not a multi-million-ounce deposit, it is a series of eight satellite deposits which can feed into a central processing facility that is running well. We are generating cash, our costs are very low, producing gold at around $700 per ounce all in sustaining costs. This means that we can fund our capital programs, we can pay back our debt, which is legacy debt, and we have money for growth.

Our highest-grade resources have been mined out from the surface and to follow them, we now must go underground. We are transitioning to underground at two high grade deposits, Bauhinia Creek and Luika, and in the future at Ilunga, another high-grade discovery. Our production transition will take place through the course of next year, aiming to be 50/50 on surface/underground.

We are also just putting in a new power station of 7.5MW capacity and we have also committed to roughly 10% of that capacity in an additional solar plant. This allows us to maintain the maximum efficiencies on the heavy fuel oil and minimize the amount of fossil fuels that we need to burn; it makes good business sense, reducing costs, and reduces our environmental impact.

Is Shanta now focusing attention back to Singida?

For Singida, there was a mining license issued in 2012, which carries an obligation to mine. There have been minor issues with resettlement of local people, common in some African countries, and earlier this year, we took steps to help the community resolve its issues to enable the project to proceed. We are working to relocate three families and a number of landholders who were farming on that ground. We are now developing a pilot project on that mining license, that we anticipate will start up in Q217. In parallel, we are doing more exploration at Singida, which is characterized as a series of satellite deposits which we aim to improve the definition on a deposit by deposit basis and prioritize them in a business plan. This is the same approach that we are doing at Luika, very successfully. Singida has the potential to grow substantially as a resource as it is a greenstone-type formation, which tend to go down very deep and we have only explored down to 100m. Singida will start off as a surface operation but will be fundamentally underground.

Shanta is listed on AIM. What is the perception of Shanta in the market and Tanzania as a mining investment destination?

We demonstrated tremendous capability in the last 18 months, delivered on every promise and our share price continues to grow to reflect more of our full value.

Tanzania is an established mining country and low-risk for operating. Tanzania could benefit from a review of its structures from an exploration perspective as green-field exploration is not happening since the 2010 Mining Act. The world is competitive in terms of allocation of capital, especially for exploration. The reality in Tanzania is that gold mines are closing twice as fast as they are opening. The government objective for the mining sector to represent 10% of GDP by 2025 is bold, and will demand serious attention to be placed on greenfield exploration. •

Striking a balance: maintaining incentives for investment

By Catherine Howe, Laura Brangwin and Imara Salas

Home to a relatively mature mining industry, Tanzania is the fourth largest producer of gold in Africa, following South Africa, Ghana and Mali, with proven reserves of minerals including diamond, tanzanite, ruby, garnet and graphite, and metals such as iron ore, nickel and copper. The country's stability and the widespread recognition of its wealth of resources have long made Tanzania an attractive investment destination, but unfavorable market conditions and uncertainty around the new government regime have taken their toll on the industry.

In particular, the drive to increase the country's financial return from the mining sector, alongside the perception of the new government's seemingly impulsive decision making, has unsettled many investors.

Tanzania continues to view the mining sector as a key area for GDP growth and in-country financial return, planning to grow the sector to account for 10% of GDP by 2025, but general sentiment is that greater attention needs to be paid to attracting investment in the first place and supporting its existing established operations. Although companies such as Acacia, AngloGold Ashanti and Shanta Gold are well established and experiencing good results, promising exploration programs are scarce, with only a handful of projects underway with adequate funding.

HERALDING CHANGE: TANZANIA'S NEW GOVERNMENT

The long-term goals of Tanzania's new government are undoubtedly positive and progressive, with primary focus areas including reducing corruption and decreasing wasteful spending and dependence on foreign aid. Looking at the World Bank's Ease of Doing Business Report, Tanzania has seen great progress, jumping up from a ranking of 144 in 2016 to 132 in 2017 out of 190 economies, with key improvements highlighted as better access to finance, a crackdown on corruption and more developed infrastructure.

The Tanzanian government has also committed to a tighter fiscal policy marked by plans to reduce civil service overheads, postpone several infrastructure projects and crack down on tax evasion. However, the quick substitutions and removal of officials from government positions has slowed certain processes somewhat, and the rapid adjustments to tax policy have caused hesitation among some investors. Nevertheless, the government has shown itself to be open to dialogue and, as such, should be able to work towards a mutually beneficial framework, in keeping with the government's focus on increasing return from the mining sector as an integral part of the economic growth of the country. •

Infrastructure and planned development

A key area of focus for the new government has been infrastructure development, with TZS 5.47 trillion - 25.4% of the total 2016/17 budget excluding public debt service - allocated for infrastructure projects, as highlighted by Deloitte's 2016/17 budget analysis. Whilst the road network is generally considered adequate, there are plans underway for additional construction and rehabilitation, with TZS 2.18 trillion allocated.

Tanzania is also seeking to improve regional trade links through the establishment of the Dar es Salaam-Isaka-Kigali/Keza-Musongati (DIKKM) standard gauge railway line, which will link the country to Uganda, Rwanda, Burundi and the Democratic Republic of the Congo (DRC). Following a $7.6 billion loan from China's Export-Import (EXIM) Bank, the project is expected to be completed by March 2018.

There is also a further plan to build two more lines to connect Dar es Salaam to the mining regions in the northern and southern parts of the country. "The only challenge today is with the rail-line, which is not standard gauge and has bridges which cannot stand heavy loads," said Ramadhani Saidi, general manager at EFFCO Solutions, a plant hire and distribution company providing heavy haulage, logistics and civil engineering works in the mining and road construction sectors. "The government has an initiative to start building a standard gauge railway within the next year, and I expect the rail network to be working well within two or three years."

Another area of focus is the port at Dar es Salaam. Despite previous development plans, Dar es Salaam's port facilities have remained relatively basic, and traffic has been about 30% less through the second half of 2016. This can in part be attributed to the increased cost of moving containers out of Dar es Salaam's port to neighboring countries, resulting in the diversion of international freight to countries such

Image: CSI Energy Group

as Kenya, Mozambique and even South Africa. Furthermore, the construction of the port and industrial zone in Bagamoyo has come to a standstill. Improvements are however now being made to Dar es Salaam's port.

Of even greater importance to mining operations is energy infrastructure, particularly in remote areas, and there is currently a drive to improve the distribution of electricity. Although access to electricity in rural Tanzania currently sits at only about 1% according to the Ministry of Energy and Minerals, this is seen as a key area for improvement, and the 2016-17 budget allocates TZS 1.31 trillion into the electrification of rural areas.

"The energy infrastructure [in Tanzania] is pretty similar in most Sub-Saharan African countries: a poorly managed grid, lacking in supply and reliability, serving only 15% to 30% of the population," explained Erwin Spolders, CEO of Redavia, a rental solar power company offering containerized solar farms to remote industrial off-grid operations, particularly in mining. "In Tanzania, as in Kenya and Rwanda, there are now new types of energy provider popping up. Off-grid companies are scaling up, starting with solar lanterns and home-systems..."

Biomass-based fuel dominates the energy balance, accounting for more than 90% of primary energy supply, while commercial energy sources such as petroleum and electricity account for about 8% and 1.2%, respectively. Whilst coal, solar and wind currently account for less than 1% of energy used, the interest in renewables is increasing and becoming a more attractive alternative and increasingly cost competitive, also providing the possibility of a more stable long-term cost structure. "It is becoming more and more viable because energy storage is also becoming much more efficient," said Hossein Sabet, regional director at SMEC. "Now, with technology improving, this area is becoming very promising, and I think changing the formula of energy will be one of Africa's key new frontiers."

There is also a plan to interconnect Ethiopia – Kenya – Tanzania and out through Zambia to the SADC market. Furthermore, the Tanzanian government also plans to commission a plant by 2025 to process up to 11.1 trillion cubic feet of gas. •

Production, exploration and mineral potential

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We talk about encouraging investors to come, but in the same breath insist they must pay heavy taxes... However, we still have political stability and do not expect upheaval from host communities.

- Charles Rwechungura,
Managing Partner,
CRB Africa Legal

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Despite adverse conditions globally including a lack of funding and a degree of instability in-country, many successful mining operations are underway, with promising exploration activities across Tanzania's various mineral resources.

Gold

Tanzania is the fourth largest producer of gold in Africa and many of Tanzania's existing operations are focused on exploration activities and production of this particular resource. The Lake Victoria Goldfields account for 50 million ounces (oz) of gold resource and is home to a number of producing gold mines. Geita gold mine, operated by AngloGold Ashanti, was the leading gold producer in 2015, contributing 38.6% of total national production.

Shanta Gold's flagship New Luika mine is Tanzania's third largest gold producer and commenced production in 2012, producing 81,873 oz in 2015. The company also holds three prospecting licenses and three mining licenses in the Singida district and is undertaking further exploration work at Songea and Lupa Goldfield. Luika is a series of eight satellite deposits producing gold at around $700/oz all in sustaining costs. Having mined out the highest-grade resources from the surface, Shanta Gold is now transitioning to underground mining at Luika and Bauhinia Creek, and plans to do the same with the high-grade discovery at Ilunga in the future. The production transition will occur through 2017.

Active in Tanzania for over 15 years, Acacia has three operating mines in the region. Together, the Bulyanhulu, North Mara and Buzwagi mines were expected to produce over 800,000 oz of gold in 2016, with 2016 expected to be the highest production year at Bulyanhulu for almost 10 years, and further growth projected into 2017 and 2018. Gokona, one of the two open pits at North Mara, has been taken underground and is now in full production and operating ahead of expectations.

The company also entered into a joint venture with OreCorp on its Nyanzaga project in 2015, and a feasibility study is expected to be completed in 2017. Acacia will then have the option to retain 75% of the project or move down to 50% ownership. Having conducted a scoping study in August, OreCorp lifted the grade from just over 1 g/mt to 3.5 g/mt. “This brought optionality to the project; we could look at different scales of operation and consider either open-pit or underground mining,” stated Matthew Yates, OreCorp's CEO. “Of the 3.4 million oz, in the scoping study we mined nearly 2.8 million oz – a very high conversion from resources to mining inventory. We are talking over 200,000 oz per year (oz/y) production for the first five years, capital of $250 million and very good all-in sustaining cost of just under $800/oz. This adds up to a good project in a good jurisdiction, with a great board and management team.”

OreCorp plans to raise the $250 million required for the project in the international forum, and it could be set to become the country's first significant new gold mine since Buzwagi in 2009 within the next few years.

Other companies with promising projects in the pipeline include Tanzoz Minerals, a subsidiary of Australian Lake Victoria Gold, which is currently drilling before carrying out a resource estimate and pre-feasibility study. Tanzoz plans to IPO the company in April/May 2017, and expects to pour gold 12 months after the IPO. “We want to get this in production by mid-2018 at 30,000 oz/y, but we want to be a 100,000 oz/y gold producer in five years, so that will probably be with another two projects of similar size,” outlined Seth Dickinson, managing director of Tanzoz. “There are many similar deposits around that the big companies are not interested in, because they are not at their desired scale. It is important to also sustain operations at the lowest points of the commodity cycle, so we will keep operating costs down. Our project operating costs are currently expected to be around $700/oz.”

Whilst there are many additional companies conducting exploration programs, including Vancouver-based East Africa Metals, Rift Valley Resources, Kibo Mining, Tembo Gold and Handeni Gold, attracting investment has been problematic and many projects are on hold or have been stalled. “Small company exploration for gold has all but ceased,” stated David Scott, president and CEO at Tembo Gold. “A few small private companies, not really exploring, are going into small-scale production. As always the bigger companies like AngloGold Ashanti and Acacia are continuing brownfield exploration work around their mine sites to extend reserves, but have mostly stopped all greenfield exploration.”

Tembo is located next door to Acacia's Bulyanhulu mine and is currently working to define the resource in order to undertake a feasibility study, with expectations to know within 12 months if the company will be able to start construction of a small operation.

Meanwhile, General Exploration has created a Tenement Choice Algorithm (TCA) for assessing the quality of tenements, which it has been using to its commercial advantage, reviewing on average 70 tenements a month and taking forward about one a month. “The choice of parameters used is based on what geologists have told us they use themselves to find prospecting ground,” explained David Spencer, General Exploration's executive chairman. “We have assembled all the data so we can statistically choose which parameters to use and the coefficients to apply to them. That part is strictly evidence-based and only applicable to the mineralized zone in Lake Victoria Goldfield in Tanzania.”

General Exploration plans to move forward with its prospecting licenses based on traditional geology and expects those chosen with the TCA to grow in proportion. “We are talking to two firm joint venture partners and expect one of those to come forward, which would mean we could spread our money further. Both are on the stock exchange of different countries. If we can survive, then the opportunities are immense,” Spencer added.

Base Metals: Nickel

As base metals become stronger, 2017 looks set to be a promising year for companies with interests in these resources. Particularly promisingly, Indiana Resources plans to transform its Ntaka nickel project from a large, medium-grade operation to a small high-grade, lower CAPEX and more easily manageable project in response to market conditions and the greater feasibility of attracting a smaller amount of investment. The company was only established in 2016, but was preceded by IMX Resources and Continental Nickel. Discovered in 2006, the Ntaka nickel project has so far seen investment of more than $70 million. Indiana Resources is also pursuing gold projects at Naujombo and Kishugu and, having completed an early-stage drilling program, plans to focus in on the mineralized zones.

Other projects include the Kabanga nickel project, with proven reserves of 37.23 mt, and Blackdown Resources' Dutwa nickel project.

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The whole of the East African region, from a power perspective, represents a massive opportunity. Across Kenya, Uganda, Tanzania and Rwanda in particular, because there is a drive to not only improve the access to and quality of electricity, but to interconnect regionally north to south. CSI Energy Group is building infrastructure at the highest voltage levels, and is one of the few local companies with the capabilities to deliver these projects to international standards.

- Chris Glasson
CEO,
CSI Energy Group

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Graphite

Black Rock Mining holds the largest high-grade flake graphite resources in Tanzania – the third largest contained resource in the world – at its Mahenge graphite project. The project's pre-feasibility study is due for completion in November 2016, and a definitive feasibility study is expected to be carried out straight after.

Magnis Resources, originally listed as Uranex Ltd in Australia, has developed modified treatment methods to achieve very high grades at its Nachu project. Normally produced through flotation processes at the mine and then sold for further downstream treatment, graphite concentrate is then subjected to a chemical leach process which can include hydrofluoric acid, and is also very aggressive and not environmentally friendly. Magnis' process avoids the chemical leach, reducing cost and increasing yield in the process to produce anode material. “This process we have developed allows Magnis to produce a material that can be directly used in battery anodes and as such has a much higher value than a standard mine concentrate,” commented Rod Chittenden, Magnis' head of operations. “Normally the chemical leach process will take 2 tonnes approximately of graphite concentrate to produce 1 tonne of spheronized anode material. The Nachu process will only use 1.3 tonnes approximately to produce 1 tonne of spheronized graphite. The company will continue its research into producing better battery anodes and has several battery experts as consultants working with us. The inventor of the Lithium Ion Battery, Prof. Stan Whittingham is a director of the company.”

Based on current mine reserves and production of 240,000 tpa of graphite concentrate, the project life is 15 years; this could however increase to 30 years or more as there are further resources that have not yet been brought into reserve status. The company aims to commence construction in May 2017, with production planned to begin in the second half of 2018. Operating just next door, Walkabout Resources has developed a propriety process for the discovered super jumbo +500 micron flakes, forecast to sell for $6,000/mt in 2020. The company has defined a resource at 10 million mt to 15 million mt, allowing production at 25,000 mt/y for 20 years. “Our target is considered modest by some, but our reasoning is that the forecast demand growth for flake graphite is untested, so we are being cautious and reducing risk,” explained Walkabout Resources' managing director, Allan Mulligan. “Some projects will be producing very large amounts of graphite, and price could be reduced if supply outweighs demand. Once the first mine is up and running – we may sign with off-take partners who purchase part of the project or company – there is nothing to stop us either expanding there, or commencing another mine at another location across the 35 km of strike graphite."

Another notable operation is Kibaran Resources, a graphite exploration company with a primary focus on its Epanko graphite project. The project holds proved and probable ore reserves of 10.9 mt at 8.6% TGC, and has completed its bankable feasibility study with two off-take agreements secured for 75% planned initial production. Kibaran also has the Merelani-Arusha graphite project, Tanga graphite project and Kagera nickel project.

Uranium

Although the market has suffered due to excess supply, 2015 marked a turnaround as Japan restarted its first two nuclear plants, following the March 2011 Fukushima Daiichi disaster.

Many companies hold a positive outlook for the next few years. Mantra Resources, for example, is in its final stages of exploration and moving toward development, with its definitive feasibility study showing an inferred and measured resource of 152 million lbs of uranium oxide. "The scale of the company's future success depends on the strengthening of the uranium market, and there are a number of optimistic indications in that direction – new certified reactors in Japan and construction of nuclear plants in China, India, South Korea, the Middle East and even some countries in Eastern Europe," said Frederick Kibodya, Mantra's managing director. "With in-situ leaching likely to be applicable to our project, I envisage uranium prices three years from now which are commensurate to supporting production. In five years, I think we will be producing and exporting on a stable basis."

Mantra Tanzania is owned by Uranium One, itself owned by the Russian state organization Rosatom. Outside of Russia, Rosatom has six operational mines in Kazakhstan and one in the United States, all mined by Uranium one.

Diamonds

According to TanzaniaInvest, the total value of Tanzania's diamond exports in 2015 was $61.7 million, which matched the value of combined exports of other minerals. The key player is Petra Diamonds, with its Williamson diamond mine, an open pit operation located on the Mwadui kimberlite pipe. Petra plans to expand the operation, ramping up tonnage throughput to about 5 mt/y from 2018 at a grade of about 7 cpht.

Smaller companies face common challenges such as water shortages, lack of access to equipment and technology, and difficulties in getting diamonds cut and polished to add value. Commenting on the subject of value addition, Thomas Kisusi, managing director of local SSM diamond mining company Tom Diamond, voiced: "Failure to cut them professionally will result in a large loss of money. A Gemological Institute Services (GIS) certificate is also required to sell to the international market, and we do not have these kinds of professional people in Tanzania. This is why we depend on Europe and India for professional cutting capabilities. The only place in Africa with knowledge in diamond cutting, and GIS certification, is South Africa. It will take time for this to change in Tanzania. However, the cutting of tanzanite and other semi-precious stones has started locally."

Tom Diamond plans to raise its profile internationally to attract investment for better equipment and technology.

Coal

There has been a great deal of renewed interest in the coal industry, particularly with projects such as Kibo Mining's Mbeya Coal to Power Project aligning itself with huge projected demand increase for power in light of rapid growth.

The Ngaka coal mine, operated by Tancoal, produced 255,884 mt and sold 260,628 mt of coal worth $11.9 million in 2015, according to the Tanzania Minerals Audit Agency (TMAA). Tancoal's Mbalawala and Mbuyura-Mkapa coal projects are also promising and the company holds high expectations.

STRIKING A BALANCE

Since the decision to privatize its economy in the 1990s and the establishment of a more favourable environment with the 1998 mining policy and Mining Act, many Tanzanians have become increasingly dissatisfied with the government's perceived generosity to foreign investors. In 1998, the focus was very much to encourage foreign investment, and the adoption of the 1998 Mining Act and policy reflected a commitment from the government to create a favourable investment environment for mining companies.

The new mining law of 2009, although retaining some incentives, sought to manage the perceived generosity and maximize in-country benefits. One approach was to increase royalty rates and remove generous allowances of exploration capital and development capital by ring-fencing projects, accelerating the date by which corporate tax would be payable by the companies. "This was not happily received by mining companies, many of which are still not paying corporation tax," explained Kibuta Ongwamuhana, managing partner at Ako Law and managing director at Clyde & Co. "So, another step was required – the government wanted to review the mining development agreements of existing operators, simply to see whether an amicable arrangement could be agreed. The ring-fencing, while effective in its own right, was not catching all the companies."

Further adjustments included removing the 15% forward-carried loss and introducing government free carried interest for all new mining investments. The crackdown on taxes in particular has frustrated many established players, and the lack of predictability and consistency has led to caution among investors. "There had previously been a culture in which not paying taxes was acceptable to the government," explained Leonard Chacha Kitoka, director at Innovex. "The government then seems to have forgotten that they themselves entertained this – instead of negotiating and discussing, particularly with big businesses, they took a more aggressive route. As a result, many of the big companies have become frustrated and some have even decided to invest in other countries instead of continuing to invest in Tanzania…It is absurd that a tax law is discussed and passed in June and immediately on July 1 it is implemented. This must change."

The rapid changes seem to be attributable to a shift from a long-term to a short-term view, with a primary focus on immediate inflow, rather than on the long-term benefits that mining operations can bring to the country in line with its long-term economic development. "Quite frankly, Tanzania is going through a political phase where its economic management is somewhat confused," said Charles Rwechungura, managing partner at CRB Africa Legal, citing uncertainty around the tax regime and regulatory approvals as the key challenges. "It seems the new President is more interested in collecting taxes than promoting and incentivizing industry; the balance is not quite right. We talk about encouraging investors to come, but in the same breath insist they must pay heavy taxes. The market is therefore a little jittery, and some producers are scaling down operations."

Despite the uncertainty amongst investors, it is the government's prerogative to capture revenue from the private sector and drive the county's economic development. Cases such as President Magafuli's recent call to cancel the prospecting license held by Pangea Minerals (a subsidiary of Acacia), overturning the decision to evict artisanal miners in the Shinyanga region, are unsettling for investors. However, evicting 5,000 local miners for a single license holder can be viewed as equally extreme, and more so when viewed through the lens of a government propagating local empowerment.

Nevertheless, it has been some time since a new large mine has opened in Tanzania, and it looks unlikely that many more will open over the next decade. "The problem at the moment is that there are no projects in the various stages leading up to the mine stage, so there is already a backlog," explained Reyno Scheepers, director, president and CEO at Handeni Gold, a gold exploration company focused on Proterozoic gold deposits in Handeni, currently raising capital to drill its Njenve target.

It is hugely important for exploration companies to be supported as the necessary first step towards development and production. Equally problematic is that companies' licenses come under threat once operations have been inactive for a year. If the investment community is not investing, the government needs to be more receptive to making adjustments to help companies survive. However, it is apparent that the government's goals are progressive, and as such will be making adjustments to ensure the sustainable growth of the sector.

SERVICE SECTOR

Many major international companies servicing the mining sector have a footprint in Tanzania; widely recognized brands either have subsidiaries in the country or, when it comes to equipment and machinery or other products, some have selected distributors. For example, Bell Equipment is dealt exclusively through Mining Agriculture and Construction Services (MACS), which also distributes Liebherr, Terex Finlay, Cummins Engines and Class.

Although conditions are becoming somewhat more favourable, the amount of exploration over the last few years has been very small due to limited investor appetite, and production companies mostly focusing on keeping production costs down. "[When gold prices rose earlier in 2016] many of the juniors started getting quite excited, and there were a lot of enquiries coming through, and a few small jobs coming around," said Darren Smit, managing director at Bamboo Rock Drilling.

Established in 2010, Bamboo Rock Drilling is a Tanzania-based East African drilling business, offering services to the mining and exploration industry, including drilling and blasting services, and underground and surface exploration. Major clients include Shanta Gold, Acacia, Magnis Resources, Panda Hill mining and Lake Victoria Gold, alongside many juniors over the years. Smit continued: "When the gold price dropped again, the excitement died and several of the projects have stalled again – it is unclear whether this is due to the gold price dropping again, or lack of success in raising funds. For the last three to four years it has become quite tough, and has become increasingly competitive over the years. Opportunities are scarce, but we have managed to keep ourselves busy."

Adverse conditions affecting mining companies are also having repercussions through all associated industries. With respect to poor truck sales due to a more tentative approach from investors, CFAO Motors' CEO Eric Potin stated: "Last month we invoiced eight new trucks to Coca Cola – our competitor congratulated us for these sales in this environment, but we usually sell 40 to 80 a year. Many firms are going into short-term rental because rental companies are renting used cars... This shows that people are calculating their expenses on a monthly basis rather than thinking long term. What we are selling at the moment is mostly our Suzuki vehicle, as they are more affordable."

Because of the maturity of the sector, it follows that the capabilities of local companies in associated industries have grown and developed in order to be competitive, although this may not always be widely recognized. "There is still a habit with mining companies of believing third world countries are not capable, and sourcing skills and services from overseas," stated Zully Mohamed, managing director at Radiowave, a Tanzanian company specializing in wireless communications, and Utrack, offering customized solutions for vehicle tracking, fleet management and cargo tracking. "Mining and exploration companies and all those affiliated should rest assured that whatever they can get overseas they can also get locally. The service providers these days have really grown – we work very closely with our suppliers overseas, and our employees receive full training so we can deliver those solutions locally. Clients can also get local warranty."

The company has recently signed an agreement to go global with an international drilling company, following four years working closely together. "We will now be exporting our local Tanzanian services to all their other sites worldwide," Mohamed added.

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Mining and exploration companies and all those affiliated should rest assured that whatever they can get overseas they can also get locally.

- Zully Mohamed,
Managing Director,
Radiowave

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Companies such as Coastal Steel Industries (CSI), which has had a presence in Africa for over 25 years, are able to tackle large-scale projects, having grown their capabilities and reputation in Tanzania over the years. CSI Electrical is currently working on Dar Es Salaam electrification improvements under the Japanese company Takaoka Engineering, and has recently been awarded the electro-mechanical erection works associated with the 240MW Kinyerezi 2 Combined Cycle Gas Power Plant working under Toshiba Plant Systems and Services Co for the project developer Sumitomo.

The benefits of partnering with local companies are clear from a logistics and cost perspective, and in terms of having a partner that can easily navigate the market and business environment. However, competing for opportunities with international companies nevertheless remains a challenge, as articulated by Dhruv Jog, director at Advent Construction: "Unfortunately there has not been a very rigid framework in the past for the protection of local construction companies. A lot of the large government sector projects have been diverted to Chinese construction companies, which had a very unhealthy effect on the industry. It took away a lot of opportunities from the local sector, which in Tanzania was a large one."

Advent construction was the first, and for four years the only, ISO-certified construction company in Tanzania, and is even now the only construction company to be certified to 9001:2015 standards. Citing the excellent quality of service at competitive costs, Jog continued, "This seems now to have struck a chord with key decision-makers, and Tanzanian construction companies are being given more preference than they were previously. Two of the biggest problems the country has faced have been unemployment and poverty, and the easiest way to fix this is to ensure Tanzanian businesses, employing Tanzanian people, have as much work as possible. In a break from the past, the new government appears to be very serious about promoting local businesses, and Advent Construction is very excited about this and grateful for the change in trend."

From a service perspective, Tanzania is extremely well set up in terms of capabilities and competitiveness. Alongside the well-reputed international players, several home-grown local companies are consistently proving themselves to be competitive, offering additional advantages such as greater expertise in business culture and environment.•

Competing within the continent

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Tanzania is in competition with other African countries for investment and it will therefore be important to ensure that the scales do not tip too far towards the country's immediate financial interest to the detriment of the industry. If investors do not find the country attractive, they will simply go elsewhere, and countries such as Kenya and Uganda are currently somewhat ahead in the incentives they offer. "Tanzania could benefit from a review of its structures from an exploration perspective as green-field exploration is not happening since the Country's 2010 Mining Act," stated Toby Bradbury, CEO of Shanta Mining. "The world is competitive in terms of allocation of capital, especially for exploration. The reality in Tanzania is that gold mines are closing twice as fast as they are opening; the last big formal gold mine to open was New Luika. The government objective for the mining sector to represent 10% of GDP by 2025 is bold, and will demand serious attention to be placed on greenfield exploration."

In reference to taxes incurred by exploration companies potentially acting as a deterrent, Seth Dickinson, managing director at TanzOz Minerals, commented: "Whilst we do not make any money, we are still taxed as if making a margin on our turnover. A $500,000 drilling bill can easily become close to $600,000. This increases the costs in Tanzania, because other countries do not apply goods and services taxes to exploration companies to the same extent, instead giving concessions to exploration companies, because they are building and developing for the future."

Equally, companies are unable to offset money spent on unsuccessful licenses against those that go into production. "The ratio of failure to success for an exploration portfolio is as little as 20:1. The losses from the unsuccessful exploration licenses cannot be written off when the company is finally in production and has a positive cash flow," added Dickinson.

TanzOz is focused on its mining license in the Geita district, currently completing a drilling program, which will be followed by a resource estimate, pre-feasibility study, and IPO around April/May 2017. The expectation is to pour gold 12 months after the IPO.

Because exploration companies are involved in a high-risk business, investment can be sensitive to the companies' use of funds. Mining companies can create significant wealth and benefits for communities, beyond initial short-term financial return through taxation, but the exploration stage must occur first.

"Mining is full of intrinsic risks which cannot be managed; however, governments globally can help by providing a stable platform for investment," stated Matthew Yates, CEO at OreCorp. Referencing the importance of maintaining an open dialogue with the industry, Yates continued: "The intention of any government is to work with industry. There is no point in any government, in any country, bringing in legislation thar will impede investment. When devising new legislation in any country, what the government begins with is often different from what it ends up with."

Whilst there is certainly a lot of work to be done, any change in regime, particularly in light of unfavourable market conditions, will bring a time of transition and a degree of uncertainty. The overall drive has been towards Tanzania's progress and, while this may create a short period of uncertainty for investors, the end result should be one of mutual benefit. •

Image courtesy of Rangold

SOUTHERN AFRICA

Botswana
Mozambique
South Africa
Zimbabwe

"2017 is looking good and hopefully the recovery will translate into orders of new capital equipment. Our prospects for 2018 are very bullish because of what we have been hearing from our clients."

- Archibald Seleka, country manager, Atlas Copco Botswana

Southern Africa

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The downturn in the prices of commodities has slowed down mining activity in Southern Africa over the last three years. Nonetheless, signs of recovery are evident. Immense mineral wealth, from diamonds in Botswana and Zimbabwe, to massive coal deposits in Mozambique and South Africa's well-known gold reserves, continue to lure investors as commodity prices recover gradually and governments undertake efforts to boost mining activity.

South Africa, the region's heavyweight, has experienced some renewed interest from investors. White Rivers Exploration and Harmony Gold Mining have announced the prefeasibility study phase of what could become one of the country's major new gold mines in the Witwatersrand basin. Additionally, the Hong Kong-based Taung Gold International is in the post-feasibility stage of the Evander gold mine and conducting prefeasibility studies on its Jeanette project.

However, South Africa faces headwinds that could derail its recovery. Political uncertainty persists, particularly regarding a new Mining Charter that could change regulations on black-ownership and impose new levies on mining companies. Tensions with working unions have eased during 2016, although persistently high unemployment and future layoffs could reignite them. Despite this, juniors and service providers are generally now more optimistic, particularly as South African mines incorporate important technological advancements and automation processes, thereby boosting the country's productivity and competitiveness, while its software and high-tech industries blossom.

Neighbouring Botswana, one of the continent's success stories, has experienced a year of mixed developments. Global demand for diamonds, still the economic backbone of the country, has recovered, with revenues estimated to grow by 27% this year, following a 12% decline in production during 2015. Moreover, the country is pursuing a diversification strategy for its mining industry, with projects on coal and copper starting to materialize. However, state-owned BCL Limited and Tati Nickel Mining were placed under provisional liquidation this year, resulting in the loss of over 5,000 jobs and severely affecting contractors. African Copper and Discovery Metals also closed their operations this year, succumbing to a protracted period of low commodity prices. Despite this, the country's strong reputation as a safe haven continues to attract investments.

Resource-rich Mozambique remains politically unstable amid resurging violence following the 2015 election. Higher coal prices in the latter half of 2015 have proved beneficial for Mozambique, attracting interest from Chinese, Indian and Japanese companies, lured by the huge reserves found in the Moatize basin. Furthermore, the governments of Maputo and Gaborone announced plans for a railway export line from Botswana to the new port of Techobanine, with the potential of transforming the region into a coal-exporting powerhouse.

Zimbabwe's mining potential has been decimated amid political and economic instability. However, signs of improved engagement with the international community and a slowly ameliorating economy have boosted prospects for the country's mining industry. The Chamber of Mines of Zimbabwe expects roughly 50% of the country's mining operators to invest in the expansion of current projects. Meanwhile, exploration projects are once again taking place, particularly in gold and platinum, with major investments announced by Zimplats. Moreover, increased demand for coal and diamonds are expected to bring Zimbabwean production back to growth, after a year of decline in 2015.

Southern Africa's traditional strengths, such as a skilled workforce and a competitive infrastructure, will continue to attract investments. Moreover, important projects in the energy sector are expected to tackle the power shortages that have impeded the industry for decades. Southern Africa's long mining tradition has resulted in its companies moving up in the mining value chain, thereby becoming important service providers and players in the rest of the continent, and the region will benefit from this. •

Hon. Minister Sadique Kebonang

Ministry of Mineral Resources, Green Technology and Energy Security for Botswana

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The Ministry recently changed its name and image, what were the reasons behind this change?

The name change highlights the areas that the Ministry will focus on in the future. Green Technology and Energy Security were added because as a Ministry we believe these are key aspects that we need to focus on. Through the Ministry, our country has to contribute towards the reduction of Green House Gas emissions and the attendant problems it brings of global warming. The main pillar of our National Energy Policy is the development of a low carbon energy portfolio.

Can you elaborate on your plans for the development of green technologies?

We are moving into solar energy, which is something new for the country. Arrangements are fairly advanced for the development 100 MW in solar, aimed to complement our existing fleet of coal fired power stations, including just awarded Morupule B Units 5 and 6. We expect a lot of movement in the upcoming year in this sector.

Despite new interest in solar, the major energy projects are coal-based. What is your view on this?

The baseline for our energy projects is coal, but we aim to have a mix of both to fulfil our energy needs. Botswana has one of the largest coal reserves and we have to make use of them. We recently issued an Independent Power Producer Licence for the development of Units 5 and 6 at Morupule in Palapye, which will feed 300 MW into the national grid. This does not mean that we will side-line solar. It is a side-by-side existence, especially when in view of the fact that photovoltaic solar power is intermittent. So far most of the interest in solar has come from overseas companies as they require high skills. Nonetheless, we have seen small projects from local companies and we hope that this trend takes hold.

How has the closure of BCL affected the mining sector?

Economically, the effect has not been as profound. The mine was already at the end of its lifespan and commodity prices have been low for the last two years. However, from a social point of view, there have been negative effects derived from the losses in the job sector. The government has shown its commitment to those affected by providing for housing, and covering school fees. This is to provide a soft landing until people readjust.

After two difficult years, have investors shown increased interest in Botswana?

If we go by the number of prospecting licences that we have been issued, then the interest is still remarkable. We are seeing a lot of activity but we have to wait for these projects to materialize.

Do you envisage further diversification in the industry?

What we are seeing in terms of exploration is mostly related to diamonds. We have not witnessed increased diversification towards base metals but we expect this trend will accelerate in the coming years.

What assurances does the Botswana government provide to investors to boost investments?

We protect mining rights and provide security of tenure and investments by ensuring that companies that invest in the country do not encounter conflicts in the processes that they must undertake for their projects. As a government, we also make sure that revenues are invested in the development of the country and we provide political stability. We remain the best destination for mining in the region. Unfortunately, the sector's adversities have derived from market forces out of our control but this is in now way indicative of a bad environment in Botswana.

What are your expectations for the year ahead?

We expect a better year. The sector is turning around and we have already noticed improvements. From our side, the regulatory and business environment has not changed and we remain consistent in our support to investors. I also expect to see a rise in the number of local companies involved in the mining sector, this is a noticeable trend that seems to be taking hold. The opportunities and potential are here, and that is a great comparative advantage that our country offers. •

Botswana

Population: 2,209,208
Land area: 581,730 sq km
Official language(s): English
Head of Government: President Seretse Khama Ian KHAMA (since 1 April 2008)
GDP: $12.86 billion (2015 est.)
Growth rate: -0.3% (2015 est.)
GDP per capita (PPP): $16,400 (2015 est.)

SOURCE: CIA WORLD FACTBOOK

TAXATION RATES

SOURCE: PWC

Corporate Income Tax Rate

22%

Royalties

Precious stones 10%
Precious metals 5%
Others 3%

MINING SECTOR CONTRIBUTION TO GDP

SOURCE: AFRICAN ECONOMIC OUTLOOK

2015

24%

FOREIGN DIRECT INVESTMENT

SOURCE: UNCTAD

FDI, $ millions

2014	2015
515	394

MINERAL PRODUCTION (2015)

SOURCE: British Geological Society

Gold	24,658,000 carats

BUSINESS ENVIRONMENT RANKING IN AFRICA (OUT OF 48)

SOURCE: WORLD BANK

	2015
Ease of Doing Business	4
Starting a Business	32
Dealing with Construction Permits	3
Getting Electricity	11
Registering Property	3

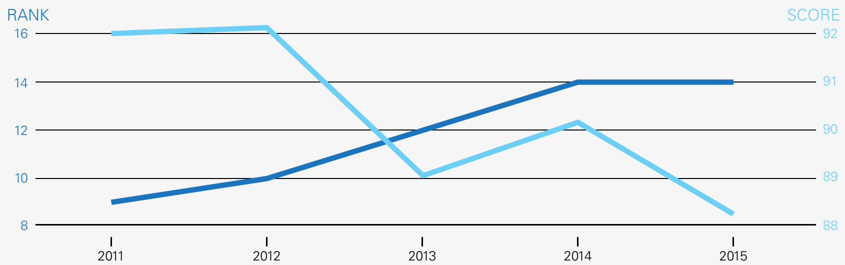
IBRAHIM INDEX OF AFRICAN GOVERNANCE

SOURCE: MO IBRAHIM FOUNDATION

	2016	change since 2006	Africa average	Rank / 54
OVERALL GOVERNANCE	**73.7**	-0.5	50.0	2
SAFETY & RULE OF LAW	**81.9**	-1.1	52.1	1
RULE OF LAW	**93.0**	-2.6	52.7	3
ACCOUNTABILITY	**72.1**	-1.8	35.1	1
PERSONAL SAFETY	**62.6**	+0.2	45.7	3
NATIONAL SECURITY	**99.9**	-0.1	75.2	4
PARTICIPATION & HUMAN RIGHTS	**69.3**	-4.1	50.0	8
PARTICIPATION	**78.0**	-1.0	47.9	8
RIGHTS	**66.8**	-1.4	46.8	8
GENDER	**63.2**	-9.8	55.4	18
SUSTAINABLE ECONOMIC OPPORTUNITY	**65.2**	-0.7	42.9	4
PUBLIC MANAGEMENT	**62.3**	-4.6	42.2	4
BUSINESS ENVIRONMENT	**69.5**	+0.7	39.7	3
INFRASTRUCTURE	**64.0**	-0.2	39.1	8
RURAL SECTOR	**64.9**	+1.3	51.5	7
HUMAN DEVELOPMENT	**78.5**	+3.9	55.0	3
WELFARE	**76.8**	+7.7	47.4	3
EDUCATION	**73.6**	+1.6	47.9	3
HEALTH	**85.1**	+2.3	69.6	3

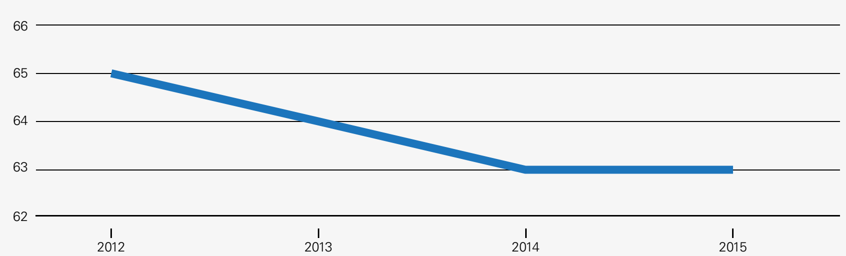
FRASER INSTITUTE INVESTMENT ATTRACTIVENESS INDEX

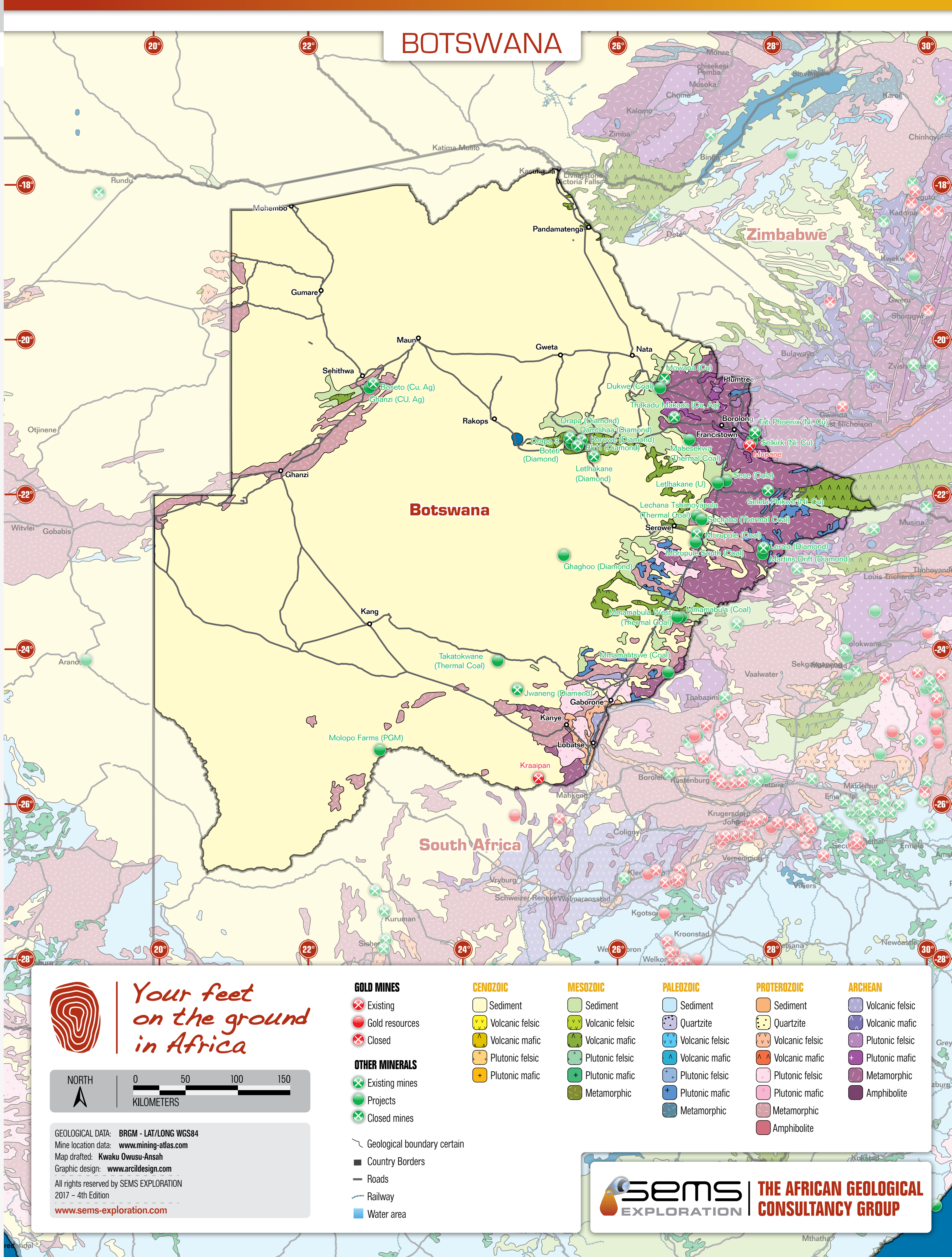
SOURCE: FRASER INSTITUTE



TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTIONS INDEX

SOURCE: TRANSPARENCY INTERNATIONAL





William Lamb

President, CEO & Director, Lucara Diamond Corp

Following the impressive 2015 Lucara Diamond experienced, can you highlight the recent 2016 developments for Lucara Diamond and the Karowe mine project?
After four years of continuous exceptional stone tenders, Lucara Diamond has been able to once again achieve the ongoing recovery of large high quality and high value diamonds. Since the first Exceptional Stone tender which was held in May 2013, we have held ten stone tenders, selling 144 diamonds, which, including the sale of the Constellation diamond, accounts for more than $450 million. As we close our last tender for the year 2016, Karowe mine will have sold more than $1 billion worth of diamonds.
The highlight for 2016 was the world record sale of the Constellation diamond for $63.1 million, a significant jump from the second highest value rough diamond sold for $35.7 million in 2009. I am fairly confident that by June of next year Lucara will hold positions: 1, 2, 4, and 5 in terms of the highest value rough diamonds ever sold. We have become the go-to company for very high value and large diamonds. 85% of our revenue comes from the sale of diamonds which very few other companies produce. Lucara has now recovered more than110 stones larger than 100 carats. The recovery of these stones and the rate at which they are recovered is what sets us apart.

As the cost of extracting diamonds is increasing, and a higher share of diamond production is scheduled to come from deeper and more complex mines the importance of optimization and increased efficiencies has increased. Can you detail the expansion of the XRT technology at Karowe mine?
We have no control over what the market is willing to pay for our diamonds but what we do have control over is how much it costs to produce them. The XRT technology allows us to maximize recovery of the high value stones early on in the process. With the installation of the Mega Diamond Recovery, we target the recovery of stones that are more than 200 carats. Instead of a 200-carat stone going through an entire process, that stone is recovered within the first few minutes of getting into the process plant, thereby reducing the probability for the stone to be broken, resulting in enhanced value. We installed XRT machines in 2015, something no one had done in a mining environment and therefore factored in a much higher cost into the budget. However when we look at the cost savings, we see incredible results: in January 2016 we had cost guidance of $33-36/mt, in June we reduced this to $28-31/mt and again further reduced our cost guidance to $25-28/mt. The value we are getting for minimal cost is exactly what we now see coming out of the operation, and a significant amount of that is attributable to not just the technology which we chose, but moving the material from a very expensive process to something which is so much simpler.

What makes the Karowe a great mining project?
We have something that nobody else has. The quality and size of the diamonds, the team which we have on the ground, the margins and revenues we generate which allow a free cash flow ability of the mine, the jurisdiction in which we are working is favourable – all of these factors make running the Karowe mine so much easier.
We are adding shareholder value by extending the life of the mine through underground drilling and incorporating new technology. An update to our current NI43-101 compliance study is expected to be complete in the second quarter of 2017. This will allow us to move forward with an underground pre-feasibility study to extend the life of the mine in the south lobe by another 10 years.
The new mining contractor that we are looking to bring in will allow us to move a lot more material. The south lobe is more than 70% of the reserve and is the kimberlite where the revenue is concentrated. Furthermore the installation of the sub middle XRT, and the Mega Diamond Recovery will allow us to recover value while reducing operating costs. •

Botswana: Diamonds Shine and Projects Loom

by Pavlina Pavlova, Eduardo Arcos

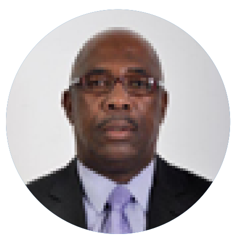
In 2016, the streets of Botswana were filled with blue, white and black flags, celebrating 50 years of the country's independence. This southern African nation of just 2 million inhabitants has much to celebrate. Following its independence, the country was one of the poorest nations in the world, with virtually no developed infrastructure and economically dependent on a small beef industry. Since then, the country has undergone a dramatic transformation, becoming one of the most democratic and stable countries in the continent, as well as boasting one of the highest GDP per capita rates in Africa. In fact, from 1966 to 2014, Botswana's GDP per capita increased at a sustained average of roughly 6% per year, one of the highest rates of any country during that time period.
Botswana's diamond trade largely sustained this stellar economic performance. Nonetheless, adequate policies and good governance also played a significant role in Botswana's transformation, leading the country to escape the fate of other African nations where mineral wealth has not delivered economic development.
However, Botswana has not been immune to the global mining slump, as mining accounts for roughly 21% of its GDP. The latest full-year figures by the Bank of Botswana show that mining output declined by 11.8% during 2015. This was mainly attributable to a 12.2% decline in diamond production during that year, as global demand weakened. Moreover, the country's copper and nickel mines have suffered greatly from the slump in prices over the last two years, leading to the closure of the mines operated by Messina Copper, Tati Nickel and BCL.
Despite these adverse developments, Botswana has experienced a turnaround during 2016, mainly driven by diamonds. Revenues from these gems are expected to surge by over 25% this year on stronger global demand while the country is expected to post production growth of roughly 3%. During the

Image: Vermeer

third quarter of 2016, Debswana, the country's largest private employer, announced a 12% increase in production relative to the same quarter of 2015, with production at Jwaneng mine up by 47%. Moreover, prospects for the diamond industry continue to brighten, as DeBeers announced that its consolidated rough diamond sales increased by 77% during the third quarter of 2016, to 5.3 million carats. Other diamond producers, such as Karowe mine and Gem Diamond's Gaghoo mine are operating at full capacity, adding up to optimism in the industry.
This optimism has also reached equipment and service providers, who have experienced a sharp drop in new orders over the past year but are now increasingly bullish about future prospects, as new projects loom in the horizon. "We have been talking to companies about new projects, expansions, or the reopening of sites. 2017 is looking good and hopefully the recovery will translate into orders of new capital equipment. Our prospects for 2018 are very bullish because of what we have been hearing from our clients," declared Archibald Seleka, country manager at Atlas Copco.

"The economy is recovering, inflation has been brought down and is within the target of the Central Bank. The macroeconomic environment is favourable for business. Therefore, it is only a question of being in the right place and at the right time."

- Joseph Mosimane,
CEO,
Ecsponent



Simultaneous to the recovery of the diamond industry, the Botswana government has reiterated its commitment to diversify the country's mining sector, which remains overwhelmingly reliant on rough diamonds. Among the initiatives undertaken in this pursuit stand the promotion of diamond trading, cutting and polishing activities, and the conduction of countrywide studies to monetise Botswana's coal resources.
The uptick in coal prices experienced this year has already attracted investors and increased optimism from those already present. "We believe our Botswana project is 100% successful. The project is now a reality and it is just a matter of time until we start. We are working on mitigating the risks before starting and I believe 2017 will bring more good news on the projects. If you see the industry as a whole, the last two years have been the lowest and now is the time to move upwards," declared Neeraj Saxena, project manager at Jindal Africa.
Furthermore, Khoemacau Copper, owned by Cupper Canyon Capital, is in the construction phase of its Zone 5 project, currently the only copper project in Botswana. However, the company holds nine prospective licences and its regional manager, Johannes Tsimako, has highlighted the advantages of operating in Botswana: "First of all, there is security of tenure, allowing to progress from one stage of the project to another without any bottlenecks. The Ministry offers certainty because they really understand the nature of the projects. We have a very positive relationship between stakeholders and the authorities, who are very supportive".
Botswana needs to upgrade its energy sector and the government foresees coal as the main driver of this transformation. The National Energy Policy, currently tabled in parliament, aims to achieve energy self sufficiency at first,

as demand is expected to grow by roughly 50% by 2025, but ultimately envisions the country as an energy exporter for the Southern Africa region. Work on transmission lines to South Africa and Namibia is already underway. Jindal is currently developing its Mamabula project, which will be divided in three phases and once completed, is expected to produce 3,000 MW. Likewise, Shumba Resources is developing its Sechaba energy project, envisioning a 300 MW power station and associated coal mine.

Green energy projects are also envisioned in Botswana's energy plan, which includes the development of a 100 MW solar plant and a target of 18% penetration of renewable energy sources to installed electricity capacity by 2018. Meanwhile, environmental regulations for coal projects are also in place. "The global drive is for clean coal, as it is done in Japan and South Korea. This is the reason why we have partnered with companies from those countries to provide expertise on the best practices for our projects, considering environmental regulations," declared Thapelo Mokhati, director at Shumba Resources.

Long-awaited, ambitious infrastructure projects have also been revisited as commodities recover, mainly a railway line linking Botswana to neighbouring Namibia and Mozambique. Governments from these countries have expressed their support for these projects and plans are underway to turn these into a reality. Mokhati stated: "The only way Africa is going to develop is through hard-core infrastructure projects on the ground. We see ourselves as playing a role in the Africa rising narrative on the ground, not just as newspaper headlines".

Botswana's ambitious energy and infrastructure plans have the potential to transform its mining sector and reduce its reliance on diamonds. In order to bring these projects to reality, the government needs to demonstrate that the country is the better suited in the region to attract investments. In this regard, Botswana has much to boast about. "The economy is recovering, inflation has been brought down and is within the target of the Central Bank. The macroeconomic environment is favourable for business. Therefore, it is only a question of being in the right place and at the right time," declared Joseph Mosimane, CEO at Ecsponent, a financial services provider.

According to Transparency International's Corruption Perception Index, Botswana ranks as the least corrupt country in Africa, while The Economist's Global Democracy Index places Botswana as the second most democratic country in the continent, only after Mauritius. This political stability, together with improved economic prospects will inevitably lure investors to this safe haven. For Botswana, all the right components are in place, and expectations are high. •

"2017 is looking good and hopefully the recovery will translate into orders of new capital equipment. Our prospects for 2018 are very bullish because of what we have been hearing from our clients.

- Archibald Seleka, Country Manager, Atlas Copco Botswana"

Mozambique

Population: 25,930,150
Land area: total: 799,380 sq km
Official language(s): Portugese
Head of Government: Prime Minister Carlos Agostinho DO ROSARIO (since 17 January 2015)
GDP (PPP): $33.19 billion (2015 est.)
Growth rate: 6.3% (2015 est.)
GDP per capita: $1,200 (2015 est.)

SOURCE: CIA WORLD FACTBOOK

TAXATION RATES

SOURCE: PWC

Corporate Income Tax Rate	Resource Rent Tax
32%	20%

Royalties

8% diamonds
6% precious metals
3% basic metals

MINING SECTOR CONTRIBUTION TO GDP

SOURCE: AFRICAN ECONOMIC OUTLOOK

2009	2013
1.6%	3.2%

FOREIGN DIRECT INVESTMENT

SOURCE: UNCTAD

FDI, $ millions

2014	2015
4,902	3,711

MINERAL PRODUCTION (2015)

SOURCE: British Geological Society

Gold	197 kg
Coal	8,500,000 kg

BUSINESS ENVIRONMENT RANKING IN AFRICA (OUT OF 48)

SOURCE: WORLD BANK

	2015
Ease of Doing Business	16
Starting a Business	24
Dealing with Construction Permits	1
Getting Electricity	32
Registering Property	13

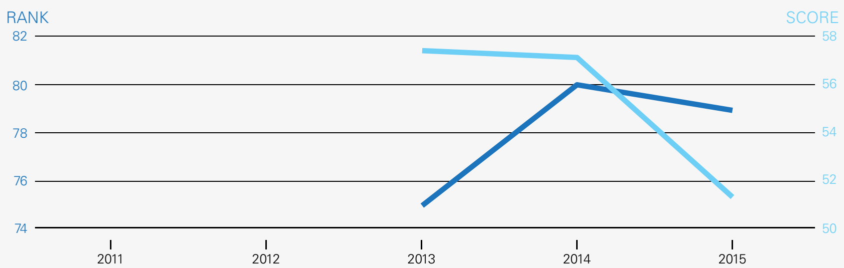
IBRAHIM INDEX OF AFRICAN GOVERNANCE

SOURCE: MO IBRAHIM FOUNDATION

	2016	change since 2006	Africa average	Rank / 54
OVERALL GOVERNANCE	**52.3**	-1.8	50.0	21
SAFETY & RULE OF LAW	**54.0**	-11.2	52.1	30
RULE OF LAW	**51.6**	-11.8	52.7	31
ACCOUNTABILITY	**28.4**	-13.5	35.1	36
PERSONAL SAFETY	**48.9**	-10.9	45.7	29
NATIONAL SECURITY	**87.3**	-8.4	75.2	17
PARTICIPATION & HUMAN RIGHTS	**58.3**	-1.3	50.0	21
PARTICIPATION	**55.1**	-4.5	47.9	26
RIGHTS	**55.2**	-12.9	46.8	19
GENDER	**64.6**	+13.5	55.4	16
SUSTAINABLE ECONOMIC OPPORTUNITY	**47.3**	+3.6	42.9	19
PUBLIC MANAGEMENT	**51.6**	+5.7	42.2	13
BUSINESS ENVIRONMENT	**41.2**	-0.5	39.7	26
INFRASTRUCTURE	**34.2**	+1.2	39.1	33
RURAL SECTOR	**62.1**	+7.8	51.5	10
HUMAN DEVELOPMENT	**49.5**	+1.6	55.0	39
WELFARE	**48.9**	-4.3	47.4	23
EDUCATION	**34.4**	+3.2	47.9	47
HEALTH	**65.3**	+6.1	69.6	40

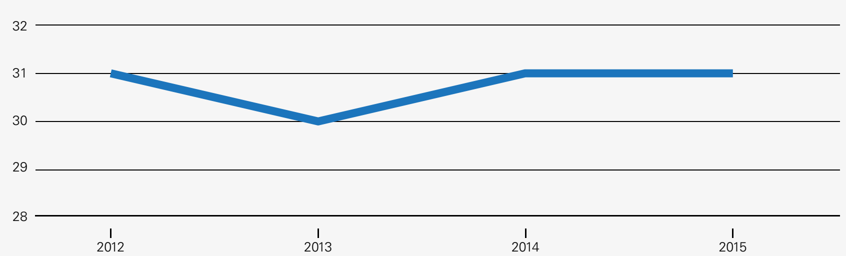
FRASER INSTITUTE INVESTMENT ATTRACTIVENESS INDEX

SOURCE: FRASER INSTITUTE



TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTIONS INDEX

SOURCE: TRANSPARENCY INTERNATIONAL



MOZAMBIQUE – Waiting for the cycle to turn

by Nathan Allen

It is a common enough cliché when writing about Africa to remark on the vast potential that exists in a given country, while bemoaning the unfortunate present. But in Mozambique, the disparity between what is and what could be is so stark that it bears repeating.

The country hosts some of the world's largest known reserves of coking coal and natural gas, as well as substantial tracts of agricultural land and one of the longest coastlines in southern Africa. However, it remains one of the poorest countries in the world, ranked 180th out of 188 countries in the UN's Human Development Index.

Following a brutal struggle for independence from the Portuguese – won in 1975 – the country was immediately tipped into an equally brutal civil war that finally came to an end in 1992, leaving the nascent nation in tatters.

Since that time, the outlook has been more positive. Mozambique has been one of the region's star economic performers, with GDP growth averaging over 7% in the last two decades, though this headline growth has done little to lift the majority of the population out of poverty.

The recent commodities slump hit hard in Mozambique. Coal prices began to dive just as the country's mining industry was building up momentum, cutting short the mining boom in its prime. Meanwhile, the gargantuan Rovuma Basin gas fields were discovered in 2012, meaning that hydrocarbon prices collapsed just as developers were starting to seriously consider investments.

Government revenues depend heavily on contributions from foreign investors, which have fallen abruptly, though reliable figures are difficult to come by. In March, Moody's downgraded the country's credit rating from B3 to B2, citing the reduced capacity of the government to service its debt and declining foreign exchange reserves at the Bank of Mozambique.

However, behind the curtain of gloom, there are significant indications of political and economic progress.

Although new president Felipe Nyusi is a member of the FRELIMO party that has ruled Mozambique since the civil war, he is the first president not to have fought in the struggle for independence. His 2014 election victory should mark a transition from the corrupt, militaristic old guard of the party elite, epitomized by his predecessor, Armando Guebuza.

Important investments in infrastructure in the North are taking place in the form of the development of the Palma and Pemba ports and Vale's Nacala Logistics Corridor, while in February, the Mozambican government approved Eni's development plan for its Coral floating LNG train.

Assuming the country can weather the storm of low commodity prices and maintain its relative political stability, Mozambique should be in a strong position to finally capitalize on its natural assets when the cycle turns again.

> One of the biggest challenges of doing business in Africa – not only Mozambique – is high transport costs resulting from poor infrastructure. If Mozambique is to realize its full potential, more and better infrastructure must be developed.
>
> - Bill Jenkins,
> Country Manager,
> Atlas Copco

Mining

When Vale inaugurated its multibillion-dollar Moatize mine in 2011, the media proclaimed the start of a coal boom in the Tete province, with major mining houses and ambitious juniors scrambling to invest. They had mixed results. Rio Tinto's 2011 acquisition of the Benga coal project for $3.7bn and subsequent sale for $50m in 2014 has become emblematic of the industry's hubris and carelessness during the boom years.

Logistical problems have so far capped Vale's total coal exports at 6.5 million mt/y, despite nameplate production capacity of 11 million mt/y. The operators resorted to storing mined coal in stockpiles, which has caused environmental and safety problems. Heavy rains then led the Brazilian major to declare force majeure on shipments of 500,000 mt in 2013. Eventually, the company decided to take matters into its own hands, constructing the Nacala Logistics Corridor, its own integrated logistics network consisting of a 900 km railway and deep-water port complex. The project was completed in late 2015 at a cost of around $4.4 billion and Vale hopes this will now allow Moatize to become profitable.

Indian steel conglomerate Jindal is the other major producer in the region, with its Chirodzi mine currently producing approximately 3 million mt/y. Despite production capacity of nearly 10 million mt/y, Jindal has been beset with the same logistical problems as Vale, but is waiting until coal prices improve to invest in more infrastructure.

> It is important to point out that the changes are evolutionary and not revolutionary. Most of the changes are fairly minor.
>
> - Samuel Levy,
> Managing Partner,
> Sal & Caldeira

As Bill Jenkins, country manager for mining equipment producer and supplier Atlas Copco, notes: "One of the biggest challenges of doing business in Africa – not only Mozambique – is high transport costs resulting from poor infrastructure. If Mozambique is to realize its full potential, more and better infrastructure must be developed."

Mining Code

In 2014, the Mozambican government updated the legislation that governs the mining industry, reflecting the sector's strong growth since the previous legislation was passed in 2002. "It is important to point out that the changes are evolutionary and not revolutionary," said Samuel Levy, managing partner at Mozambique's leading law firm, Sal & Caldeira. "Most of the changes are fairly minor."

The main changes can be divided into three broad areas: promoting local development and participation in mining, imposing more stringent requirements on mine operators and expanding the scope of activities regulated under the legislation. Taxes were not affected and are dealt with under separate legislation. Even if the fiscal regime were to change, investors are currently protected by a five-year stability agreement, which insulates them from tax hikes.

Under the new law, mine operators are required to give preference to local suppliers, assuming that the quality of the goods or services they provide is comparable with imports. Prior to this, there was a similar requirement, but it was subject to the price of Mozambican goods – if local procurement was substantially more expensive, miners could import.

New miners will also have to list their companies on the Mozambique Stock Exchange, though existing investors are exempted from this obligation.

There is now a clause that makes in-country mineral processing obligatory, if it is economically viable. While this may seem like a rather onerous obligation, there is no supporting text to define what constitutes "economically viable." Given the high cost of power and transport in Mozambique, increased levels of beneficiation are unlikely to be economically viable.

Image: Scania

A third change to the law pertains to environmental requirements. In step with global norms, prospective miners will have to submit a decommissioning plan along with their initial feasibility studies to receive a mining license. This should not pose a particular problem, as any respectable mining house will include such plans as standard from the first stages of development.
A final issue to bear in mind is a proposed shakeup to regulatory agencies. A new High Authority for Extractive Industries is supposed to assume ultimate oversight over Mozambique's mining and oil and gas industries. However, 18 months after the plan was floated, there is still no sign of the agency becoming a reality.
Some feel that the changes did not go far enough. "Our policies and fiscal regime are based upon the economic realities of the previous decade's commodity boom," said Casimiro Francisco, CEO of Mozambique's state mining entity, EMEM. "Now, some commodities have lost 50% of their value in three years and we have still not adapted our laws accordingly."

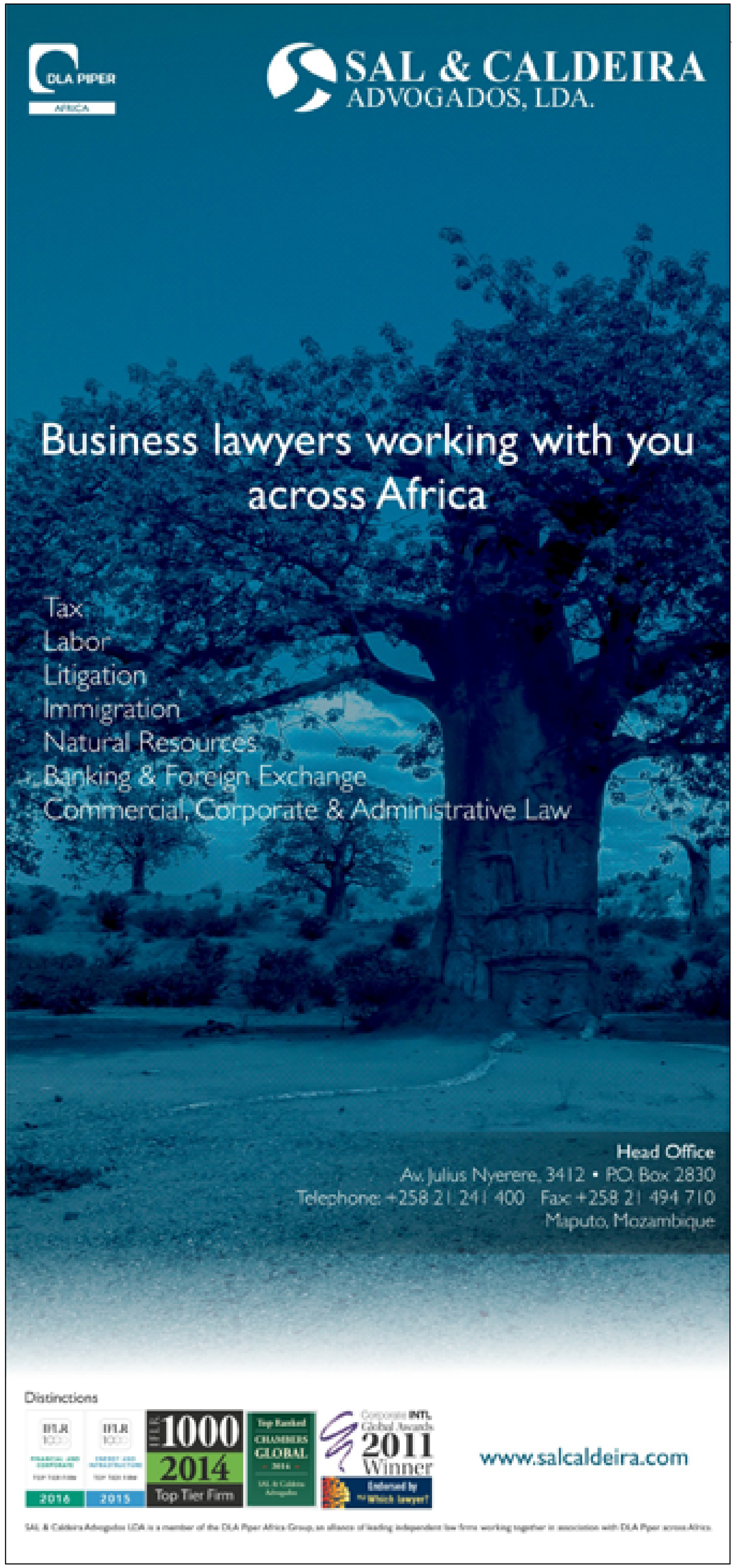
Another complaint is a lack of consistency in application of the law across different regions. "Different provinces interpret the law differently so, in effect, there is one law for Nampula and Manica, and a different one in Maputo," said Samuel Levy. "We are one country, not three and the practice of the law should reflect this."

> "As with most other industries, technology is also playing a key role. For instance, our global Site Optimization project is investigating the mining operation holistically, looking for ways to improve little pieces of the puzzle. Expertise in these areas is in high demand at the moment.
>
> - Ruben Govender,
> Key Account Manager Mining,
> Scania"

More mineral diversification

Mozambican mining is not just a story about coal. According to Mário Deus, managing director of local consultancy Gondwana: "Mozambique has plenty of unexplored ground and there are still fantastic opportunities to discover new mineral deposits. We also see great potential for construction materials as the domestic market is growing rapidly."
Mozambique's surface geology is fairly well understood, albeit to a fairly low level, and the country is mapped to a scale of 1:250,000. This is not a sufficient level of detail for a junior mining company to work with but the Ministry of Mines is working to create a 1:50,000 scale map. It is yet to be decided if this will take the form of airborne geophysical surveys or geochemical work.
Uniquely in the region, Kenmare Resources operates a dredge mine that filters heavy mineral sands for zircon and ilmenite, a titanium ore. Kenmare ramped up to full capacity in 2013, posting record production figures in Q3 2015. Their coastal location insulates them from the logistical issues that plague inland mines. According to Mozambique manager Gareth Clifton: "While we complain about the quality of power, the cost of power remains reasonable. As we dredge mine, our costs are very low and we would be towards the bottom of the industry cost curve."
Although not yet in production, Syrah Resources' Balama project has the potential to become one of the region's major graphite hubs. With a JORC Compliant Ore Reserves of 81.4 mt at 16.2% total graphitic carbon for 13.2 mt of contained flake graphite, Balama is the largest graphite ore reserve in the world. "Our objective is to develop the mine and put graphite into production by the beginning of 2017," said Syrah's Mozambique manager, Dinis Napido. "A key advantage of our Mozambique operation is its low production cash costs of US$286 per product mt," he added.
The Company successfully completed

> "Mozambique has plenty of unexplored ground and there are still fantastic opportunities to discover new mineral deposits. We also see great potential for construction materials as the domestic market is growing rapidly.
>
> - Mário Deus,
> Managing Director,
> Gondwana"



"We now have the full package. The project will generate good commercial returns, but also unprecedented socio-economic returns.

- Ben James, Managing Director, Baobab Resources"

an US$148 million capital raising during August 2015 and is now underway with project development.

Baobab Resources is probably Mozambique's most ambitious mine project. Initially envisaged as an iron ore mine and pig iron smelter, the owners now plan to build a fully integrated steel mill. With a proven reserve of 1 billion mt iron ore and major coal producers in close proximity, the company believes it can supply steel products to southern Africa more cheaply than they can be imported from China. "We now have the full package," said managing director Ben James. "The project will generate good commercial returns, but also unprecedented socio-economic returns."

Looking to the future, Casimiro Francisco of EMEM believes that REEs could form a significant part of Mozambique's export economy. "There is a very interesting situation arising within the rare earths market. Some countries have already depleted their resources, but demand continues to grow. Mozambique hosts rich reserves that could help plug this supply gap," he said. •

South Africa

Population: 54,300,704
Land area: 1,219,090 sq km
Official language(s): IsiZulu (official) 22.7%, IsiXhosa (official) 16%, Afrikaans (official) 13.5%, English (official) 9.6%
Head of Government: President Jacob ZUMA (since 9 May 2009)
GDP (PPP): $723.5 billion (2015 est.)
Growth rate: 1.3% (2015 est.)
GDP per capita: $13,200 (2015 est.)

SOURCE: CIA WORLD FACTBOOK

TAXATION RATES

SOURCE: PWC

Corporate Income Tax Top Rate

28%

Royalties

Copper, Iron ore, Coal 0.5 to 7%
Gold 0.5 to 5%

MINING SECTOR CONTRIBUTION TO GDP

SOURCE: AFRICAN ECONOMIC OUTLOOK

2013

6.5%

FOREIGN DIRECT INVESTMENT

SOURCE: UNCTAD

FDI, $ millions

2014	2015
5,771	1,722

MINERAL PRODUCTION (2015)

SOURCE: British Geological Society

Gold	151,622 kg
Chromium ores and concentrates	14,037,772 mt
Coal	261,398,527 mt
Copper	78,697 mt
Diamond	8,030,673 carats
Iron ore	80,759,334 mt
Manganese ore	13,830,000 mt
Platinum group metals	188,435 kg (metal content)
Titanium minerals	1,238,000 mt

BUSINESS ENVIRONMENT RANKING IN AFRICA (OUT OF 48)

SOURCE: WORLD BANK

	2015
Ease of Doing Business	3
Starting a Business	22
Dealing with Construction Permits	11
Getting Electricity	5
Registering Property	12

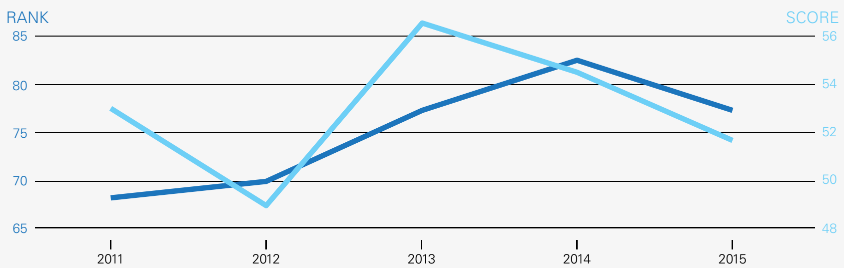
IBRAHIM INDEX OF AFRICAN GOVERNANCE

SOURCE: MO IBRAHIM FOUNDATION

	2016	change since 2006	Africa average	Rank / 54
OVERALL GOVERNANCE	69.4	-1.9	50.0	6
SAFETY & RULE OF LAW	67.1	-5.9	52.1	7
RULE OF LAW	94.6	+2.8	52.7	2
ACCOUNTABILITY	61.5	-13.1	35.1	4
PERSONAL SAFETY	37.2	-5.4	45.7	44
NATIONAL SECURITY	75.0	-8.0	75.2	37
PARTICIPATION & HUMAN RIGHTS	71.4	-1.2	50.0	5
PARTICIPATION	78.1	-0.3	47.9	7
RIGHTS	68.2	-1.3	46.8	6
GENDER	67.8	-2.2	55.4	11
SUSTAINABLE ECONOMIC OPPORTUNITY	68.4	+1.8	42.9	2
PUBLIC MANAGEMENT	75.6	-5.0	42.2	1
BUSINESS ENVIRONMENT	68.4	+2.7	39.7	4
INFRASTRUCTURE	65.0	+3.7	39.1	6
RURAL SECTOR	64.6	+5.6	51.5	8
HUMAN DEVELOPMENT	70.6	-2.3	55.0	6
WELFARE	69.3	-2.9	47.4	5
EDUCATION	63.3	-5.0	47.9	11
HEALTH	79.1	+0.8	69.6	10

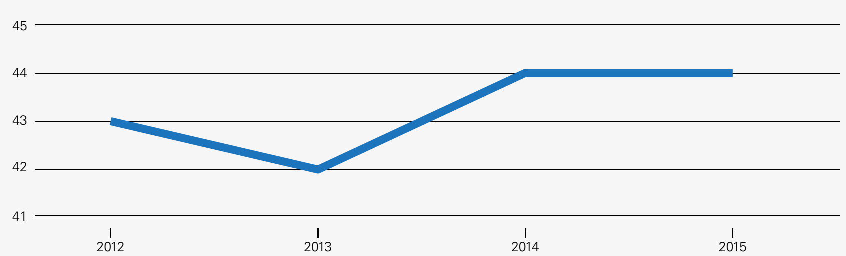
FRASER INSTITUTE INVESTMENT ATTRACTIVENESS INDEX

SOURCE: FRASER INSTITUTE



TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTIONS INDEX

SOURCE: TRANSPARENCY INTERNATIONAL



Tebello Chabana

Senior Executive- Public Affairs and Transformation, Chamber of Mines, South Africa

Could you provide us with some more details regarding the organisation's role and membership?
We're a voluntary organisation and so we try to look after the collective interests of our members. We are essentially an advocacy organisation that relates to mining. The Chamber was started in 1887, and became a national organisation. Clearly it has morphed and changed significantly compared to what it was years ago and in 1968 became the advocacy organisation for the mining industry that it is today. Members include about 38 major players, around 30 juniors and four industry associations. If you look at our members, they represent approximately 90% of South Africa's mining production by value, employing about 460,000 people in the mining sector.

Could you highlight some of the projects that you are currently involved in?
We are currently trying to address employee indebtedness. Mine workers in South Africa earn good wages relative to other industries but a lot of their income goes towards debt. We are trying to engage some of the regulators to restrict lending only to those who can afford it. We are also engaging with some debt collector companies to clean up their practices. Another key project relates to the modernisation in our sector. The traditional methods of mining were very labour intensive, particularly in platinum and gold, where mines have gotten deeper and deeper. We realize that in order to be able to mine efficiently we're going to have to modernise. We are trying to do it as a sector by investing in research and development (R&D), upgrading skills and operating complex tools. We would also like to have more equipment manufactured in South Africa, to compensate for job losses in mining sites.

Can you provide some insights on the current situation of the mining industry in South Africa?
We are experiencing some hectic challenges as a sector; PWC recently revealed that revenues for the top 40 mining companies fell by roughly 21% for the 2015/2016 period, amounting to $539 billion. This is in addition to a 2014 drop of $678 billion. While operational costs have decreased, impairments have doubled and free cash flow is down. Globally, we know that there is no equivalent to China, which really helped drive the boom in the mining sector. India is not going to be that next China, so the outlook in terms of commodity prices going forward, I think we are seeing a new normal of not so exciting prices. During 2012 to 2015, the sector had to shed approximately 59,000 jobs in South Africa. Other local challenges are a rise in wages of 10% per annum and rising electricity costs, which have tripled over the last seven years. In the platinum sector, output-per-worker declined by 49%, while real labour costs per kilogram increased by 309% between 1990 and 2014, so we've got some challenges in terms of productivity. Last year the South African sector reported losses of $2.9 billion.

What are the most critical challenges that South Africa's mining sector faces today that could dent investments?
It's predominantly all about the prices. Besides this, I think that in South Africa we have regulatory challenges. People perceive South Africa to be a destination where we still have a lot to do to improve regulatory uncertainties. The Fraser Institute report on South Africa ranks the country at 16th place in terms of regulatory improvement potential.

Challenges aside, what factors would you identify as South Africa's main competitive advantage for foreign investors?
South Africa has certainly quite a lot as the country is a mature mining jurisdiction. In terms of what is in the ground, South Africa is the place to be. We have a very good mining infrastructure when it comes to certain bulk commodities, we have a culture of mining as have been mining for decades so a lot of the skills that we need are here. •

SOUTH AFRICA

Your feet on the ground in Africa

NORTH

0 50 100 200 KILOMETERS

GEOLOGICAL DATA: BRGM - LAT/LONG WGS84
Mine location data: www.mining-atlas.com
Map drafted: Kwaku Owusu-Ansah
Graphic design: www.arcildesign.com

- Edition

www.sems-exploration.com

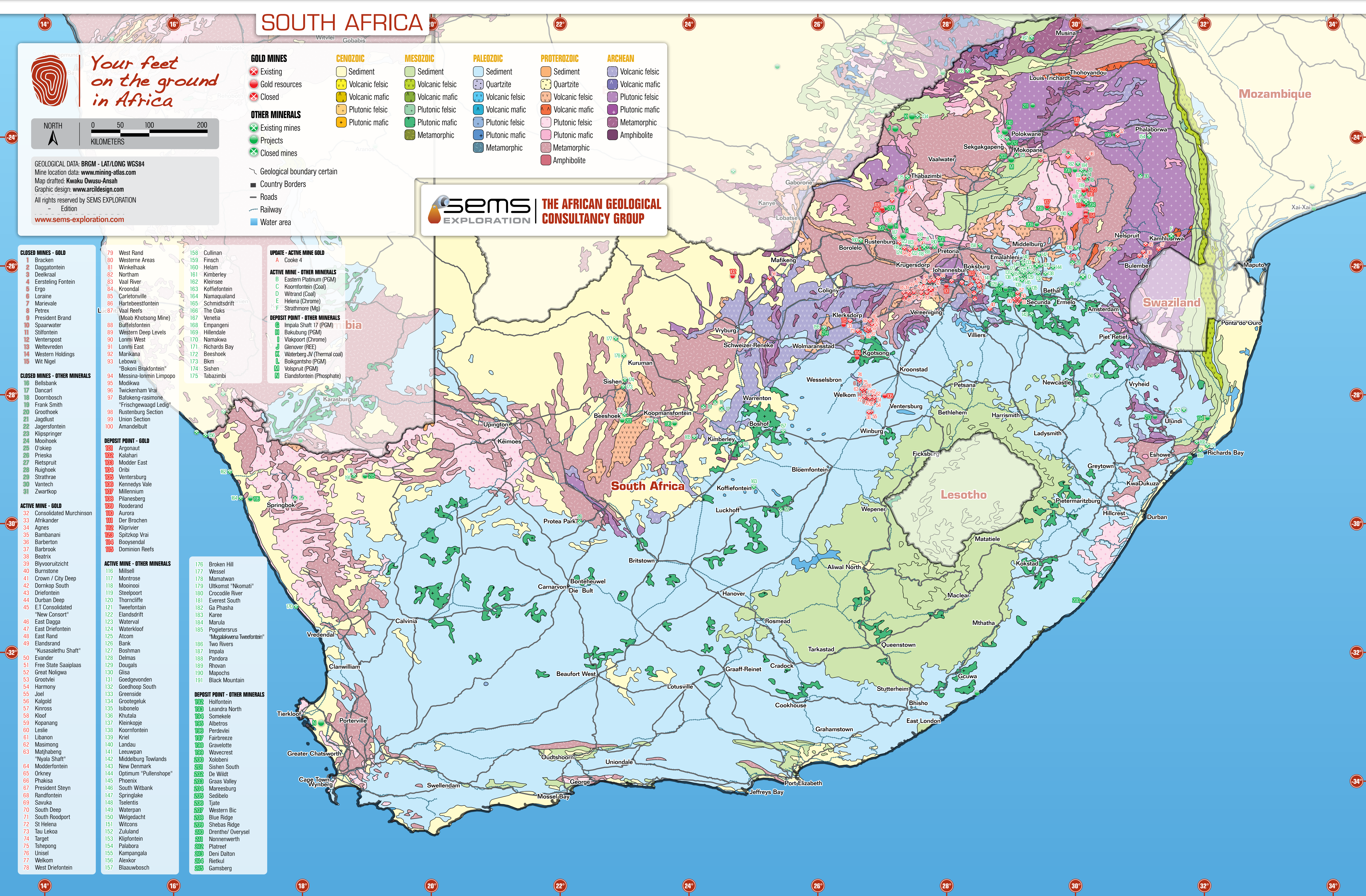
GOLD MINES
- Existing
- Gold resources
- Closed

OTHER MINERALS
- Existing mines
- Projects
- Closed mines

- Geological boundary certain
- Country Borders
- Roads
- Railway
- Water area

CENOZOIC	MESOZOIC	PALEOZOIC	PROTEROZOIC	ARCHEAN
Sediment	Sediment	Sediment	Sediment	Volcanic felsic
Volcanic felsic	Volcanic felsic	Quartzite	Quartzite	Volcanic mafic
Volcanic mafic	Volcanic mafic	Volcanic felsic	Volcanic felsic	Plutonic felsic
Plutonic felsic	Plutonic felsic	Volcanic mafic	Volcanic mafic	Plutonic mafic
Plutonic mafic	Plutonic mafic	Plutonic felsic	Plutonic felsic	Metamorphic
	Metamorphic	Plutonic mafic	Plutonic mafic	Amphibolite
		Metamorphic	Metamorphic	
			Amphibolite	

SEMS EXPLORATION
THE AFRICAN GEOLOGICAL CONSULTANCY GROUP



CLOSED MINES - GOLD
1 Bracken
2 Daggatontein
3 Deelkraal
4 Ersteling Fontein
5 Ergo
6 Loraine
7 Marievale
8 Petrex
9 President Brand
10 Spaarwater
11 Stilfontein
12 Venterspost
13 Weltevreden
14 Western Holdings
15 Wit Nigel

CLOSED MINES - OTHER MINERALS
16 Bellsbank
17 Dancarl
18 Doornbosch
19 Frank Smith
20 Groothoek
21 Jagdlust
22 Jagersfontein
23 Klipspringer
24 Mooihoek
25 O'okiep
26 Prieska
27 Rietspruit
28 Ruighoek
29 Strathrae
30 Vantech
31 Zwartkop

ACTIVE MINE - GOLD
32 Consolidated Murchinson
33 Afrikander
34 Agnes
35 Bambanani
36 Barberton
37 Barbrook
38 Beatrix
39 Blyvooruitzicht
40 Burnstone
41 Crown / City Deep
42 Dornkop South
43 Driefontein
44 Durban Deep
45 E.T Consolidated "New Consort"
46 East Dagga
47 East Driefontein
48 East Rand
49 Elandsrand "Kusasalethu Shaft"
50 Evander
51 Free State Saaiplaas
52 Great Noligwa
53 Grootvlei
54 Harmony
55 Joel
56 Kalgold
57 Kinross
58 Kloof
59 Kopanang
60 Leslie
61 Libanon
62 Masimong
63 Matjhabeng "Nyala Shaft"
64 Modderfontein
65 Orkney
66 Phakisa
67 President Steyn
68 Randfontein
69 Savuka
70 South Deep
71 South Roodport
72 St Helena
73 Tau Lekoa
74 Target
75 Tshepong
76 Unisel
77 Welkom
78 West Driefontein
79 West Rand
80 Westerne Areas
81 Winkelhaak
82 Northam
83 Vaal River
84 Kroondal
85 Carletonville
86 Hartebeestfontein
87 Vaal Reefs (Moab Khotsong Mine)
88 Buffelsfontein
89 Western Deep Levels
90 Lonmi West
91 Lonmi East
92 Marikana
93 Lebowa "Bokoni Brakfontein"
94 Messina-lonmin Limpopo
95 Modikwa
96 Twickenham Vrai
97 Bafokeng-rasimone "Frischgewaagd Ledig"
98 Rustenburg Section
99 Union Section
100 Amandelbult

DEPOSIT POINT - GOLD
101 Argonaut
102 Kalahari
103 Modder East
104 Oribi
105 Ventersburg
106 Kennedys Vale
107 Millennium
108 Pilanesberg
109 Rooderand
110 Aurora
111 Der Brochen
112 Klipriver
113 Spitzkop Vrai
114 Booysendal
115 Dominion Reefs

ACTIVE MINE - OTHER MINERALS
116 Millsell
117 Montrose
118 Mooinooi
119 Steelpoort
120 Thorncliffe
121 Tweefontain
122 Elandsdrift
123 Waterval
124 Waterkloof
125 Atcom
126 Bank
127 Boshman
128 Delmas
129 Dougals
130 Glisa
131 Goedgevonden
132 Goedhoop South
133 Greenside
134 Grootegeluk
135 Isibonelo
136 Khutala
137 Kleinkopje
138 Koornfontein
139 Kriel
140 Landau
141 Leeuwpan
142 Middelburg Towlands
143 New Denmark
144 Optimum "Pullenshope"
145 Phoenix
146 South Witbank
147 Springlake
148 Tselentis
149 Waterpan
150 Welgedacht
151 Witcons
152 Zululand
153 Klipfontein
154 Palabora
155 Kampangala
156 Alexkor
157 Blaauwbosch
158 Cullinan
159 Finsch
160 Helam
161 Kimberley
162 Kleinsee
163 Koffiefontein
164 Namaqualand
165 Schmidtsdrift
166 The Oaks
167 Venetia
168 Empangeni
169 Hillendale
170 Namakwa
171 Richards Bay
172 Beeshoek
173 Bkm
174 Sishen
175 Tabazimbi
176 Broken Hill
177 Wessel
178 Mamatwan
179 Ultkomst "Nkomati"
180 Crocodile River
181 Everest South
182 Ga Phasha
183 Karee
184 Marula
185 Pogietersrus "Mogalakwena Tweefontein"
186 Two Rivers
187 Impala
188 Pandora
189 Rhovan
190 Mapochs
191 Black Mountain

DEPOSIT POINT - OTHER MINERALS
192 Holfontein
193 Leandra North
194 Somekele
195 Albertros
196 Perdevlei
197 Fairbreeze
198 Gravelotte
199 Wavecrest
200 Xolobeni
201 Sishen South
202 De Wildt
203 Graas Valley
204 Mareesburg
205 Sedibelo
206 Tjate
207 Western Bic
208 Blue Ridge
209 Shebas Ridge
210 Drenthe/ Overysel
211 Nonnenwerth
212 Platreef
213 Deni Dalton
214 Rietkul
215 Gamsberg

UPDATE - ACTIVE MINE GOLD
A Cooke 4

ACTIVE MINE - OTHER MINERALS
B Eastern Platinum (PGM)
C Koornfontein (Coal)
D Witrand (Coal)
E Helena (Chrome)
F Strathmore (Mg)

DEPOSIT POINT - OTHER MINERALS
G Impala Shaft 17 (PGM)
H Bakubung (PGM)
I Vlakpoort (Chrome)
J Glenover (REE)
K Waterberg JV (Thermal coal)
L Boikgantsho (PGM)
M Volspruit (PGM)
N Elandsfontein (Phosphate)

Neil Warburton

Executive Chairman, White Rivers

Demand for gold has experienced an upturn over the last year. Do you expect this trend to continue over the short term?
The world is in a stage of sufficient uncertainty over developments in Europe and America. This, in turn, increases enthusiasm for investors towards gold as a safe haven and long term investment option. I do not expect the gold price to go down, although I don't see it skyrocketing either.

What effect will increased demand for gold have on current projects and operations?
In Australia and South Africa, the currency has depreciated significantly against the US dollar over the last 12 months. With local gold prices surging, this has resulted in an increase in exploration in both countries, as more operations become very profitable at the moment. Moreover, there has also been a rise in IPOs in these markets which will also increase exploration and the potential for new discoveries.

What are your expectations on White Rivers' dual flotation in the Johannesburg and London markets?
White Rivers is looking at going public sometime in 2017. For this, our research has shown London was the wisest choice, as it is the most appropriate to list gold assets based in South Africa. We also know the South African and Australian markets really well but don't believe an IPO will be as well received as a London Stock Exchange listing. We believe a dual listing on the Johannesburg Stock Exchange in the future will also create value for our shareholders.

What projects does White Rivers expect to fund through the planned IPO?
First of all, our joint venture with Harmony (White Rivers 65%) will complete the Pre-Feasibility Study (PFS) in mid 2017. The PFS is already fully funded by White Rivers. Going forward, White Rivers expects the PFS will initiate further studies that will require additional funds to take the project forward. The company has several other exciting gold projects, with one of these exploration projects to start drilling in mid-2017. To fund these, we believe that we need to turn to the markets. Overall, we have 13 gold projects throughout South Africa and two of these additional projects nearing JORC resource status. The funding from our IPO will not only assist our joint venture with Harmony should it require additional funding, it will also strengthen our balance sheet in terms of free cash as further opportunities arise in South Africa.

The site of the joint venture with Harmony is also highly prospective for uranium. Do you have any plans for this metal?
There is uranium located in the western areas of the site but the target of our joint venture is gold. We will start drilling in 2017 and this may in the future include uranium, we cannot discard it.

What are your challenges and expectations for the year ahead?
My expectations are that we will continue to advance with all of our projects and I see a lot of excitement from the investor community. There is a real appetite for gold, which will make us able to advance with our projects and convert our near production assets to cash flow. White Rivers will go from an exploration and developing company to a gold producing company within the next four years and we intend to be producing by 2020. •

South Africa: Smarter Mining

by Pavlina Pavlova, Eduardo Arcos

The commodities price slump in South Africa was accompanied by a period of political uncertainty amid large-scale corruption scandals, taking a severe toll on investors' confidence, bringing exploration projects to a halt, and resulting in mine closures and tens of thousands of job losses for the mining sector. Nonetheless, after a tough three years of readjustments and restructuring, companies have become more optimistic, as commodity prices recover and their operations have become more efficient. Moreover, mining remains one of the pillars of the South African economy and its traditional competitive advantages, together with wide-ranging clusters, provide the necessary factors to give the sector a new impetus.

In the stock markets, majors enjoyed a remarkably better year, buoyed by sustained gains in commodity prices and improved optimism from shareholders. Perhaps more than any other company, Anglo American perfectly illustrates the turnaround in the mining sector. Having been the worst performing stock in the London Stock Exchange during 2015, the company was the top performer for 2016, with its shares rising by over 270% for the whole year.
Anglo has long been a major player in South Africa, shaping the country's mining sector for about a century. Therefore, when the company announced in late 2015 that it would cut two thirds of its workforce over the coming years panic soon followed, as it employs 72,000 people in South Africa alone.

“We have improved our communications with employees by settling agreements and engaging in their wellbeing. At the beginning, unions were sceptical but we now find them increasingly receptive.

- Andile H. Sangqu,
Executive Head,
Anglo American South Africa”

However, the impact has so far been less than expected, and the bulk of job losses in the company is expected to come from the sale of assets and businesses. “We have been clear that our attention is focused primarily on those businesses in which we hold leading positions- diamonds, platinum group metals and copper, while recognising that we also have a portfolio of other high-quality assets such as iron ore and coal. We are disposing of our iron ore assets in South Africa as well as our coal business in Australia in a manner that delivers optimal value for our stakeholders,” declared Andile H. Sangqu, executive head of Anglo American South Africa.
Tensions with unions, a recurring problem for the mining sector in South Africa, have also eased during 2016. “We have improved our communications with employees by settling agreements and engaging in their wellbeing. At the beginning, unions were sceptical but we now find them increasingly receptive,” stated Sangqu.
However, unemployment remains persistently high. According to Statistics South Africa, it currently hovers at around 27%, its highest level since 2003. In an effort to tackle this, the South African government is pursuing a strategy to foster investment in manufacturing of equipment and R&D for the mining sector. Tebello Chabana, senior executive for public affairs and transformation at the Chamber of Mines of South Africa noted: “Modernization has to take place in the sector. The traditional methods of mining were very labour intensive. We are trying to modernise as a sector by investing in research and development, upgrading skills and operating complex tools. What we would also like to do is to have more equipment manufactured in South Africa, to compensate for job losses at mining sites”.
South Africa boasts a wide array of service and equipment companies, present in every mining jurisdiction in the African continent. Such is the case of Kanu Equipment, a construction and earth moving equipment provider based in Johannesburg. Throughout the mining slump in South Africa, the company benefitted from its presence in various other African countries and relied heavily on its services and spare parts divisions when companies scaled back on purchases of new equipment. “The reason why we did not suffer greatly during the mining slump was because we perform very well in after sales support and spare parts delivery. We believe we had the right business model to survive the slump,” declared Stephen Smithyman, CEO at Kanu Equipment.

Image: Shutterstock

Similarly, processing equipment and services companies have benefitted from their presence throughout the continent and from the emergence of new players in the mining industry across various jurisdictions. “We suffered during the downturn as well, everybody did. But we suffered less so because we are very broadly based. Our clients go from artisanal miners to the majors. The smaller players pay less attention to economic trends; they are mostly concerned about growing their businesses. We found a very specific niche and it is what got us through the tough times,” stated Kevin Peacocke, CEO at APT Processing, a mineral processing and services company.
During the mining slump, companies were forced to become more efficient in their operations. By maximizing productivity at their sites through the incorporation of new technologies and software, companies throughout the country have adapted to the new normal in commodity prices by ‘mining smarter’. South African sites have emerged from the slump increasingly automated, and workers now have a wider array of tools and information at their disposal, enhancing overall productivity and competitiveness. In this regard, South Africa has been able to narrow the gap with other more advanced mining jurisdictions, such as Australia or Canada. “As with other industries, technology is playing a key role in mining. For instance, our global Site Optimization Project investigates mining operations holistically, looking for ways to improve little pieces in the puzzle. Expertise in these areas is in high demand at the moment”, declared Ruben Govender, key account manager mining at Scania.
The strong standing and wide presence of South African companies throughout the continent evidence the country’s predominant role in the mining sector of Africa as a whole. Therefore, their performance and increased optimism serve as a barometer for the industry. Additionally, their continued

“The reason why we did not suffer greatly during the mining slump was because we perform very well in after sales support and spare parts delivery. We believe we had the right business model to survive the slump.

- Stephen Smithyman,
CEO,
Kanu Equipment”

Image: Shutterstock

expansion will keep fostering the development of mining-related clusters, a welcome development for a country in desperate need to move up the value added chain and escape the middle-income trap. Moreover, foreign companies are increasingly looking at manufacturing opportunities in South Africa to serve the national and African markets. "Although Grundfos is a Danish company, we assemble products in South Africa and have engaged with the local economy and the regulatory environment. We are trying to bring a lot of the know-how to South Africa," declared Niren Rohanlal, business development manager at Grundfos, a premium pump manufacturer.

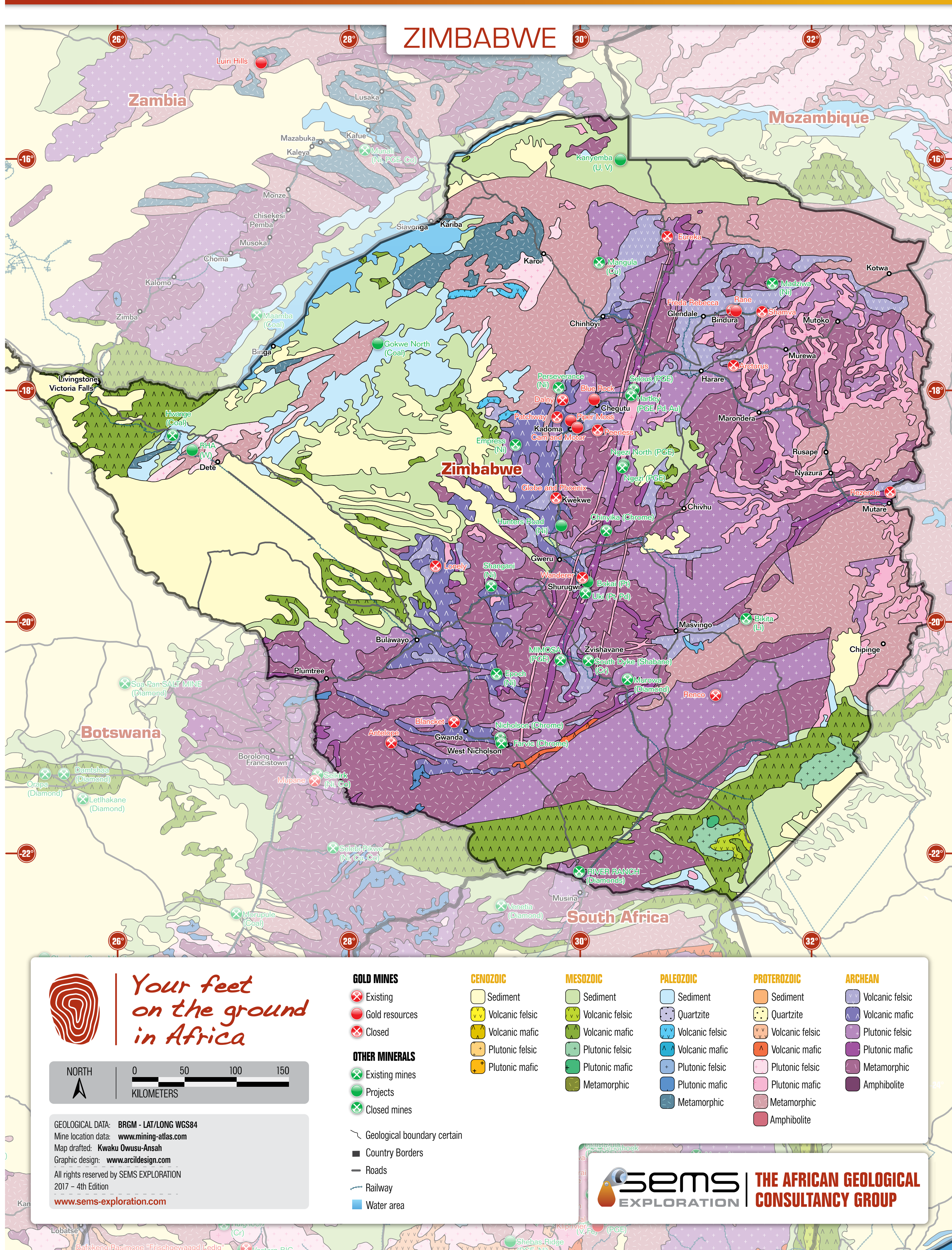
Challenges certainly remain, particularly in regards to higher operational costs despite a weaker Rand. Electricity prices have tripled over the last seven years, while real labour-costs per kilogram extracted have soared by 309% between 1990 and 2014. Moreover, uncertainty over future regulations has also dented enthusiasm from investors, particularly in regards to changes in black-empowerment policies and new levies on companies that are widely regarded as being too intrusive. Companies have to make precautious steps to comply with eventual regulatory changes. "We are fully compliant with BEE regulations. We have introduced a clause stating that our BEE shareholders can only sell their shares to other BEE groups, which shields us from losing our BEE credentials," declared Rudolph de Bruin, executive director at Taung Gold.

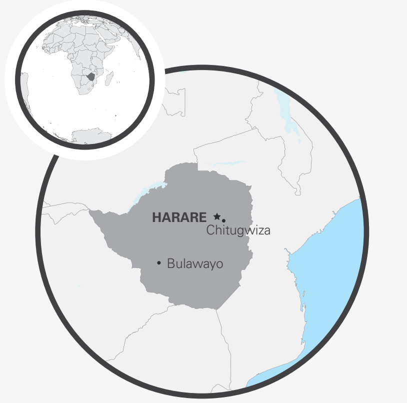
Despite the challenges, optimism has returned to South Africa, as the country seems increasingly adapted to a new normal in commodity prices and is taking the right steps to counter future price fluctuations by moving up in the mining value chain. Moreover, the abundance of mineral reserves in South Africa will continue to attract investors, as they are estimated at a whopping USD $2.5 trillion.

Additionally, the strength of the U.S. dollar has resulted in gold exploration projects being very profitable in South Africa at current prices. "My expectations are that we will continue to advance with all of our projects and I see a lot of excitement from the investor community. There is a real appetite for gold, which will make us able to advance our projects and covert our near production assets to cash flow," declared Neil Warburton, executive chairman at White Rivers.

White Rivers has 13 gold projects throughout South Africa and has recently launched an IPO to raise funds for their expected plans. "White Rivers will go from an exploration and developing company to a gold producing company within the next four years," declared Warburton.

Developments over the past year evidence that the industry has already seen its darkest days. Although the uptick in mining will be gradual at best, the sector as a whole has showed that it has learnt from the downturn and has emerged more resilient. These will be long-lasting strengths for South Africa, a country that will remain as one of the world's most attractive mining jurisdictions. •





Zimbabwe

Population: 14,546,961
Land area: 390,757 sq km
Official language(s): Shona (most widely spoken), Ndebele (second most widely spoken), English (traditionally used for official business),
Head of Government: Executive President Robert Gabriel MUGABE (since 31 December 1987)
GDP: $28.1 billion (2015 est.)
Growth rate: 1.5% (2015 est.)
GDP per capita (PPP): $2,100 (2015 est.)
SOURCE: CIA WORLD FACTBOOK

TAXATION RATES

SOURCE: PWC

Corporate Income Tax Rate

15% - 25%

Royalties

Diamonds 15%
Other precious stones 10%
Gold 5%; Platinum 10%

MINING SECTOR CONTRIBUTION TO GDP

SOURCE: AFRICAN ECONOMIC OUTLOOK

2015

9%

FOREIGN DIRECT INVESTMENT

SOURCE: UNCTAD

FDI, $ millions

2014	2015
545	421

MINERAL PRODUCTION (2015)

SOURCE: British Geological Society

Gold	15,386 kg
Diamond	4,771,637 carats
Chromium ores and concentrates	408,422 mt
Coal	5,782,600 mt
Lithium	44,000 mt
Nickle	16,633 mt
PGM	25,483 kg

BUSINESS ENVIRONMENT RANKING IN AFRICA (OUT OF 48)

SOURCE: WORLD BANK

	2015
Ease of Doing Business	28
Starting a Business	44
Dealing with Construction Permits	44
Getting Electricity	30
Registering Property	15

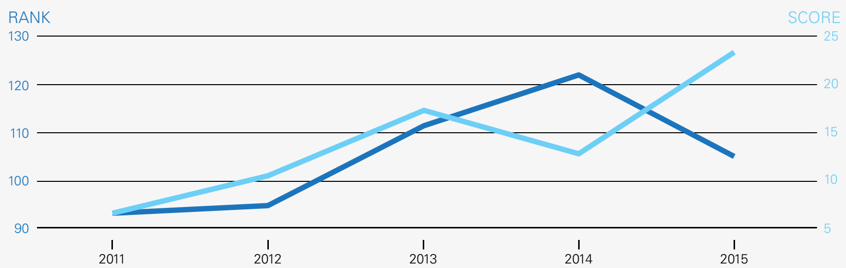
IBRAHIM INDEX OF AFRICAN GOVERNANCE

SOURCE: MO IBRAHIM FOUNDATION

	2016	change since 2006	Africa average	Rank / 54
OVERALL GOVERNANCE	**44.3**	+9.7	50.0	39
SAFETY & RULE OF LAW	**43.8**	+6.2	52.1	42
RULE OF LAW	**38.3**	+11.1	52.7	42
ACCOUNTABILITY	**24.2**	-0.9	35.1	40
PERSONAL SAFETY	**36.1**	+8.1	45.7	45
NATIONAL SECURITY	**76.7**	+6.7	75.2	36
PARTICIPATION & HUMAN RIGHTS	**45.1**	+14.7	50.0	34
PARTICIPATION	**28.3**	+6.9	47.9	41
RIGHTS	**34.7**	+16.3	46.8	36
GENDER	**72.4**	+20.9	55.4	9
SUSTAINABLE ECONOMIC OPPORTUNITY	**34.6**	+10.5	42.9	39
PUBLIC MANAGEMENT	**41.8**	+18.4	42.2	28
BUSINESS ENVIRONMENT	**15.5**	-1.2	39.7	49
INFRASTRUCTURE	**34.1**	-2.1	39.1	34
RURAL SECTOR	**47.0**	+26.8	51.5	37
HUMAN DEVELOPMENT	**53.8**	+7.4	55.0	28
WELFARE	**38.0**	+8.3	47.4	41
EDUCATION	**56.7**	+5.2	47.9	18
HEALTH	**66.8**	+8.8	69.6	34

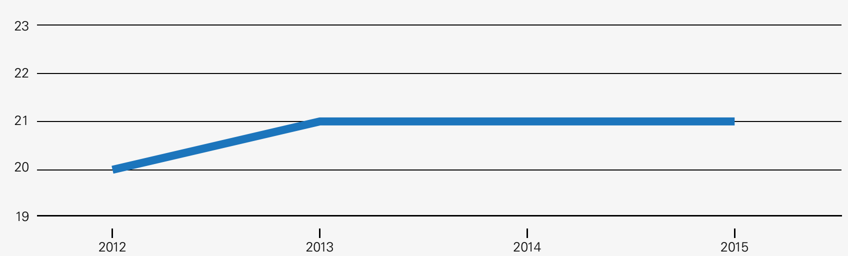
FRASER INSTITUTE INVESTMENT ATTRACTIVENESS INDEX

SOURCE: FRASER INSTITUTE



TRANSPARENCY INTERNATIONAL CORRUPTION PERCEPTIONS INDEX

SOURCE: TRANSPARENCY INTERNATIONAL



Overcoming adverse conditions in Zimbabwe's mining sector

by Catherine Howe,
Laura Brangwin and
Imara Salas

Alongside agriculture, manufacturing and tourism, mining is a crucial sector within Zimbabwe's economy. A country rich in a wide array of minerals including gold, diamonds, platinum, nickel, chrome and coal, many of Zimbabwe's mineral reserves can be found along the Great Dyke, which runs from the north to the south of the country and spans a length of about 550km. Mineral resources found here primarily include platinum group metals (PGMs), gold, nickel, copper and chrome.

Despite Zimbabwe's high levels of public debt, recent droughts, currency challenges and weak domestic demand contributing to the country's declining economic growth, the country nevertheless moved up 16 places to a ranking of 155 out 189 countries in the World Bank's 2016 Doing Business report. However, following a drop in growth rates from 3.8% in 2014 to 1.5% in 2015, the IMF recently slashed growth expectations for 2016 from around 1% to -0.3%, and forecast that the economy will contract by a further 2.5% in 2017.

Zimbabwe's mining industry has been under a great deal of pressure due to factors at both a global and in-country level. Currency woes, droughts, power shortages and a lack of access to affordable funding are among the core challenges for the sector and industry at large. Nevertheless, although some companies have struggled, with RioTinto exiting the country in 2015, others are having great success despite adverse conditions.

Gold

Zimbabwe holds many greenstone belts, also known as gold belts, which are considered the most productive in the world. With four running mines, Metallon Corporation is Zimbabwe's leading gold miner, producing a quarter of the country's output and employing 4,000 Zimbabweans. Holding an estimated resource of about 8.3 million ounces, the company has just completed construction of a 65,000 mt/month plant at Mazowe, which will add 24,000 oz/annum to its existing production. Last year, Metallon produced 97,000 oz of gold and expected 2016 production figures stood at 102,000 oz.

Meanwhile, Bilboes Gold has seemingly done the greatest amount of recent exploration and metallurgical work. The company's flagship operation is its sulfide project, for which it has established a JORC-compliant resource of approximately 4.3 million oz, and is due to complete its pre-feasibility study in March 2017. Bilboes will be using open pit mining methods to establish a mine producing six tons of gold per year. The full feasibility study is due to be completed in 2017, at which point mine construction will commence. Bilboes also has a smaller operation in oxide mining, producing about 4,000 oz of gold a month.

Other notable gold operations include Blanket mine, which produced over 42,800 oz of gold in 2015, with Caledonia Mining Corporation holding 49% interest, and Freda Rebecca gold mine, 85% owned by Asa Resource Group, previously Mwana.

Platinum and Platinum Group Metals (PGMs)

Zimbabwe has the world's second largest resource of PGMs after South Africa, occurring primarily along the 550km-long Great Dyke. Within the Dyke there are four PGM-bearing complexes, of which the Hartley Geological Complex is the largest, containing approximately 85% of Zimbabwe's known PGM resources. Of the four geological complexes, Hartley is mined by Zimbabwe Platinum Mines (Zimplats), Wedza by Mimosa and Selukwe by Unki-Anglo American. The fourth is the Musengezi complex.

Zimplats, in ownership of the largest PGM-bearing complex, is fittingly the country's largest platinum producer and has reportedly invested nearly $5 billion since 2002 in its mining operations in Zimbabwe. Operating four underground mines and one open pit mine, Zimplats supplies ore to two concentrator modules at Ngezi and a third at Selous. The company is a subsidiary of South Africa-based Impala Platinum Holdings (Implats), which itself contributes approximately 25% of global platinum output. With a record 6.4 million tons of ore milled during 2016, Zimplats' run-of-mine (ROM) ore production also increased by 26% from 5.2 million tons to a record 6.6 million tons. The redevelopment of the company's Bimha mine is on schedule to achieve design capacity by the fourth quarter of 2018.

Mimosa, a joint venture between Implats and Aquarius Platinum, holds platinum reserves of one million attributable ounces. Anglo American, responsible for approximately 40% of newly mined platinum worldwide, operates the Unki mine in Zimbabwe, with the rest of its operations in the Bushveld Complex in South Africa.

Diamonds

Despite being in the top ten producers of diamonds worldwide, Zimbabwe's revenue from the sector has suffered in recent years. In a drive to increase transparency and accountability in the sector, the Zimbabwe Consolidated Diamond Company (ZCDC) was formed in early 2016, and took over diamond concessions previously owned by companies in Chiadzwa. The company commenced operations in March 2016, but production figures throughout the year have been low, at only a fraction of monthly targets.

Chrome

Zimbabwe's Great Dyke also holds the world's largest resource of high grade chromite, quantified by the U.S. Geological survey at 90% of chromite reserves worldwide. Since the seam deposits span the entire dyke, chromite is mined throughout.

Having halted exports of chrome ore in 2011 to protect the country's ferrochrome industry from competition and promote value addition, the government lifted the chrome ban in June 2015. "The chrome ban effectively shut down the industry which had a massive effect on our company as 90% of our business had been in chrome," said Anthony Kinsey, managing director at WGB Kinsey & Company, a Zimbabwe-based company specializing in civil engineering, contract mining and plant hire. "Recently, however, we have had many people asking us to mine chrome for them although we do not believe it is currently viable, as the resource in Zimbabwe in most areas requires the market price to be higher than it is at present…Many companies see this as a way of getting much needed foreign currency out of the country, which is also problematic as they are not really considering how viable it is."

Together, Zimbabwe Alloys (ZimAlloys) and Zimbabwe Mining and Smelting Company (Zimasco) until recently controlled upwards of 80% of Zimbabwe's chrome ore resource. However, in a move to break their monopoly, the government ordered the companies to relinquish some of their chrome claims, to which the companies complied in late 2016. Meanwhile, Zimasco is also in the midst of a turnaround strategy having been heavily affected by depressed prices in the global ferrochrome market.

Currency

Having entered a multi-currency regime in 2009 to mitigate the effects of hyperinflation, the Zimbabwean government's recent decision to roll out bond notes has been met with discontent. The bond notes, pegged one-to-one against the U.S. dollar, were launched by the Reserve Bank of Zimbabwe in December 2016, with the intent of easing the country's severe cash shortages and supplementing the U.S. dollars in circulation. However, stocks of the new bond notes reportedly ran out within a week due to high public demand.

Equally, because the bond notes have no value outside of Zimbabwe, there could be further repercussions in international trade and imports, areas already impacted by the currency shortages. "We now have to rely on our customers to provide the external funds, but not everyone has access to these funds," said Mike Biss of Volvo Penta in relation to sourcing foreign currency to pay for the company's engines and gensets. "One would hope, going forward, that the central bank would step in and assist, as power generation for industry and mining are the key role players in earning much needed foreign currency."

Volvo Penta's market share within the industrial and mining sector does, however, continue to grow despite such challenges and depressed market conditions, aided by a new relationship with Sandvik.

Policy change and framework

Zimbabwe's mining industry has been regulated by the Mines and Mineral Act of 1961, but the draft of the new mining policy, released in August 2016 and subsequently sent for debate in parliament, outlines many changes, some of which have been of concern to investors. For example, in a drive to capture greater benefits within the country, the new mining policy demands that raw materials may only be exported with ministerial approval, and asserts that mining rights will only be issued to companies listed on the Zimbabwe Stock Exchange. Several mining firms operating in Zimbabwe, including Anglo American, Impala Platinum and Aquarius, are not currently listed on the local stock exchange.

There are, however, some decidedly positive incentives in place, such as the duty rebate on imported goods for mining operations. Commenting on the difference in incentives offered to mining companies and those in other industries, Christina Muzerengi, director of tax and advisory services at Grant Thornton, noted: "For example, capital allowances are much higher for mining companies in the first few years after setting up. This also gives relief in terms of taxes paid in the early years of commencing operations. Furthermore, where other companies are allowed to carry forward their losses for a period of six years, mining companies are allowed to carry forward their losses for an indefinite period."

Zimbabwe's tax regime is competitive with that of neighboring countries, and Zimbabwe's VAT legislation was in fact copied from South Africa.

"

Because of the lower threat in Zimbabwe, investment into expensive equipment, such as thermal cameras, is not necessarily warranted. It comes down to the cost benefit, and the incentive will more likely be safety or monitoring operational processes. For example, a company recently wanted a thermal/laser camera that would pick up heat variance to signal any hang up on the conveyer belt, which could cause fires or failure.

- Tariro Mundawarara,
COO,
Safeguard Security

"

Ken Mekani

CEO,
Metallon Corporation

• • •

Metallon Corporation has five mining properties in Zimbabwe, as well as properties in DRC and interest in Tanzania. Could you give an update on Metallon's Zimbabwe operations?

Metallon Corporation is Zimbabwe's leading gold miner, producing about a quarter of the country's output. We own five mines, of which four are running. Our flagship mine is How, which produces 55% of our output; Shamva produces around 25%, Mazowe another 12.5%, and Redwing makes up the balance. Metallon Corporation currently holds an estimated resource of about 8.3 million oz. We are one of the country's biggest employers, with about 4,000 Zimbabweans working for us, and are a major contributor to the economy. At Mazowe, we have just completed construction of a 65,000 mt/month plant, which will add 24,000 oz/y to our production. Last year we produced 97,000 oz; this year we are expecting about 102,000 oz. Right now, our costs average about $740/oz for C1 and $950/oz for C3.

Redwing Mine has recently received substantial investment. What are the latest developments in that operation?

Redwing was on care and maintenance for eight years before reopening in November 2015. Currently the plant is running at 60% capacity; we plan to increase it next year to 100%, which would amount to about 23,000 mt of ore per month. Next year we want to undertake expansive exploration and development– we have a 2 million oz resource at Redwing, and the shaft has a capacity of 80,000-100,000 mt/month.

What are Metallon's current plans for How mine?

How is an amazing mine. Metallon Corporation has improved efficiencies there and it is now operating at cash cost (C1) of about $450/oz, with an all-in sustaining cost of about $600/oz. We are trying to shift it from a grade-oriented mine to a volume-oriented one. Within the next three or four years, How should process around 100,000 mt/month, perhaps at a grade of 3.5g/mt. Just by tweaking the plant, we have increased its throughput from 1,000 mt/day to 1,100 mt/day in the last year.

How have recent reforms in Zimbabwe's mining policy affected your operations?

In the new mining bill, taxes are one issue. At the moment, mining companies pay council tax and royalties, so we would prefer just to pay one unified tax. Another matter is the ownership of mining leases. Initially we used mining claims, but these have now been consolidated into mining leases, making managing them much easier and cheaper. If there are disputes, the interests of both parties should be taken into consideration.

What are your key objectives over the next few years?

Our vision over the next five years is to increase production to about half a million oz per year and we also want to remain a low-cost producer. •

Supporting artisanal and small-scale mining activities

Artisanal and small-scale mining activities make up a substantial portion of Zimbabwe's mining, particularly in gold, and if properly managed could provide an excellent channel for the development of local skills and a means of income, while at the same time contributing to the country's economy. "Artisanal miners contribute greatly to gold production in Zimbabwe, and at some point the government decided to invest in equipment and seek to formalize the activities, but there are still many leakages," asserted Ishmael Muchena, managing director of Monadi Mining, a small-scale gold mining company based in Headlands, about 130 km East of Harare. "The operations are scattered all over the country and are therefore difficult to control and police – there are many rumors about the tons of gold leaking out of the country as a result. Equally, when payment is delayed from the government the miners will turn to the black market, because they cannot afford to wait and want to be paid immediately. This is where the problem lies."

Artisanal gold mining activities have now been decriminalized, and all small-scale producers are required to sell their bullion through Fidelity Printers and Refiners. Fidelity is wholly owned by the Reserve Bank of Zimbabwe, and specializes in buying gold from small-scale producers, operating a printing and gold refinery plant in Harare. "Of its throughput so far this year, more than 45% has come from small-scale miners; in the past it was 26% on average, and in future it could outstrip large-scale contributions," said Augustine Makoni, director at Zimlink Minerals, a Zimbabwean company focused on gold mining in the small-scale mining sector, with the aim of providing a voice for small- to medium-scale companies in the mining sector.

Highlighting opportunities for investment in small scale operations, Makoni added: "The advantages of small-scale mining include lean startups and the possibility to spread risk over multiple tenements… Many investors want to pursue brownfield projects to mitigate risk, but the startup costs for a greenfield small-scale project are only a fraction of those for resuscitating a brownfield project. The mineralization in Zimbabwe is much less deep than in South Africa."

Inside track: local service companies

Over the decades, companies servicing the mining industry have developed in quality and capability alongside the increasing maturity of the sector. International companies such as Bell, Caterpillar and Volvo have a footprint in Zimbabwe, alongside several homegrown companies increasingly proving themselves to be competitive at an international level in terms of their product, service quality and capabilities.

Whilst competition may be on the rise with cheaper products entering the market from countries such as China, locally-based companies maintain attractiveness by offering knowledge of the local industry and business environment and a more integrated service, including extensive after-sales services and maintenance plans. "A lot of people aren't in for the long-term when the environment is so uncertain – they want to make a quick dollar and therefore go for the cheapest option on machinery," commented Anthony Kinsey, managing director at WGB Kinsey & Company. "Our support goes much further than just supplying machinery – we always endeavor to go the extra mile… For example, we assist on the statistical side and administration with regards to operations, and provide very useful figures and information which is very much an added addition to the normal contract. This gives us an edge on most of our competitors."

"The demand for Volvo Penta engines within Zimbabwe is lower than usual; however, the market is depressed and this tends to have a knock on effect with the demand. We are optimistic though and hope that investors come to invest in Zimbabwe, which in turn boosts the market and increases demand throughout all the sectors."

- Mike Biss,
Director,
Avoca Power (Volvo Penta dealer in Zimbabwe)

Equally, quality does often win out, particularly with trusted and internationally recognized brands, and those with a local base are able to service their machinery in a way that others cannot. "When money is tight, companies start looking at cheaper products, which has been a challenge for us – some Chinese Products are sold at half the price of our equipment, but you are only getting half the machine, and often there is little or no after sales support or spare parts supply," explained Keith Bydawell, sales manager at Bell Equipment. "I always tell my customers 'if you buy cheap you buy twice'. We at Bell are in this business for the long haul, and have had some customers for 25 + years now. We supply reliable products and we have strong aftersales support. We also like to sell maintenance plans to customers because it lengthens the lifespan of the equipment."

Although industrial machinery is one of Zimbabwe's biggest imports, local machinery and equipment is becoming increasingly competitive. Locally-based companies such as Craster International, an engineering company with a background in grinding media and general engineering, have an increasingly strong track record. "We are trying to become competitive in terms of import substitution," stated Vimabyi Matarirano, general manager at Craster. "Some of the Chinese products are very cheap, but the durability is not there, and this is extremely important for the mining industry. We offer a reliable product and have an excellent reputation – we have been streamlining and cutting down on our costs so we can be more competitive in this respect."

Recognizing that mining companies operate non-stop, Craster also offers a 24/7 service and a fast response time. The company's success is clearly reflected in its winning contracts with some of the big mines, currently supplying a converter for BNC and with an upcoming project with Zimplats.

In addition to quality, a clear advantage of Zimbabwe-based companies is the more simple supply chain. Hilmax, a family-owned company specializing in hydraulic solutions, hoses, mining technology and conveyor systems and distributor for brands such as Hytec, Brelko, Eaton and The Hydraulic Centre (THC), has established itself as a local partner working to the highest international standards. "We are the only supplier company in this country that is fully ISO certified to the latest standards," said Pascal Musavaya, Hilmax's CEO.

Citing the necessity to ease the flow of stock and ensure availability, Musavaya continued: "Equally, most of our competitors do not have a local base – many have tried to come into the country directly with little success, or have failed to choose a champion in the country… We have applied to the government to be considered for a bonded warehouse. When our stock arrives, it will come into a bond – it will be here and available, but we will only access it when there is an order."

With its set of capabilities and high quality standards, Hilmax is now able to compete anywhere worldwide and has recently been invited by Sandvik International to move internationally with them, having previously worked with the company as a subcontractor on the new Zimplats mine.

Investor perception

Many investors are skeptical due to perceived risk factors partly stemming from a lack of clarity, of which the indigenization laws are a prime example. "Clarity is the key factor – the government needs to work on ensuring clear communication with a unified and consistent message," commented Tinashe Mawere, senior partner at Grant Thornton. "Empowerment laws are in place, but may not have been properly received by investors. Now, however, a lot is being done to ensure clarity and consistency in communication of the laws. We have also seen quite marked improvements in areas such as the ease of doing business – there is now a one stop shop for processing of licenses and greater speed in processing of investor licenses, for example."

Although the country is facing challenges, Zimbabwe's mining industry is well established and, while the newer challenges should be short-term if handled effectively, mining is a long-term game. Zimbabwe's mineral wealth is undisputed and several companies are seeing excellent results despite unfavorable global market conditions. •

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