COVID-19 AND MINING

REFLECTIONS ON A PANDEMIC

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Editors: Richard Cramer & Bernard Kengni

Series Editor: Hanri Mostert

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COVID-19 AND MINING: REFLECTIONS ON A PANDEMIC
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Preface

Louis Snyman

The impact of the COVID-19 pandemic on the mining sector and host communities can only be characterised as far-reaching and devastating. The mining sector discourse has been dominated by a myriad of positions on the subject, from voices from every corner of affected society. It is clear that the pandemic directly touched the lives of all host- communities indiscriminately, drastically altering lived realities indefinitely. Cut off from income and family, the only real survivors were those who had the resources to weather the storm. It is evident that the COVID-19 crisis laid bare the issues prevalent and systemic in the sector.

The mining sector has also not been spared; the pandemic had a marked negative impact on the financial health and viability of many mines. The mining sector contributes significantly to the economy and, in many communities, is the economic heartbeat of the regional economy. The prolonged downturn continues to have a significant impact on communities to provide for their families. While the reliance on the mines' ability to provide socio-economically is critical, there is a corresponding reliance on mineworkers by both the mines and the communities in which they live. Mineworkers form an integral part of the mine community, and are the driving force behind any mining operation. Mines cannot operate with a workforce which is subject to uncontrolled disease and high infection rates.

The COVID-19 pandemic has forced a shift in the approach of mining companies to employee health. It seems the pandemic has brought about improved health and safety planning and implementation on mine sites. Although this is a positive step, what has been observed by community activists is the disparity between the treatment of communities and workers. This new reality brings into focus the broader question of mine and public health in the South African mining sector, begging the question of whether the current legal regulatory framework of safety measures is capable of responding positively to the current and future pandemics.

"The prolonged downturn continues to have a significant impact on communities to provide for their families."

The socio-economic and political fallout of the COVID-19 pandemic has exposed the strengths and vulnerabilities of many role-players; arguably, the most important has been that of the State. While companies have an obligation to not infringe rights and conform to their social licence to operate, the State has a positive constitutional obligation to support communities and ensure basic services are provided, in particular during times of crisis. Local government, which is at the coal-face of local economic development, has been further weakened by the added pressure created by the crisis. The COVID-19 pandemic has exposed the resource and capacity constraints of this essential sphere of government. This strain has, again, shown the need for more inclusive public-private partnerships to take a community-centered approach to local economic development.

Platforms, such as these provided by Mining to Metals, the Southern African Institute of Mining and Metallurgy, and the South African Research Chairs Initiative, allow for opinions and experiences from multiple sectors to be openly shared. The hope is that these honest and constructive engagements lead to a better understanding of the issues and encourage creative thinking around practical solutions

that meaningfully change the lives of communities and inspire viable and responsible mining. The complexities of the host community-State-mining company relationship cannot be understated. With, often, competing imperatives it is clear that understanding each other's positions is the only way of reaching compromises and creating mechanisms that encourage the building of trust. The forging of this understanding has been dramatically impacted by the COVID-19 pandemic, where each of the core stakeholders has had increased pressure placed upon their ability to both meaningfully engage and operate sustainably.

"The socio-economic and political fallout of the COVID-19 pandemic has exposed the strengths and vulnerabilities of many role-players; arguably, the most important has been that of the State."

The historical context of mining in South Africa must be appreciated to grapple with the drivers behind the actions of both the State and mining companies. The role of critical research in this highly contested space is central to unpacking a globally disruptive period of this nature. The social development regression has been stark and, hopefully, the lessons learnt can better prepare us all to respond meaningfully to the economic and social impacts of likely future events. All stakeholders need to strive to uncover the potential this experience provides, particularly through the lens of topical themes such as, inter alia, the Just Transition, community-centered development and post-closure mining landscape utility. The conference focuses on understanding these issues but also on what this new future looks like in response to these trends.

"The hope is that these honest and constructive engagements lead to a better understanding of the issues and encourage creative thinking around practical solutions that meaningfully change the lives of communities and inspire viable and responsible mining."

It is clear that the recovery from this unprecedented period will be long and arduous, but through robust engagements, such as in these forums, we hope to create a platform for a more meaningful understanding of the issues in an effort to contribute to a more equitable, stable and responsive mining sector. The strength of the South African people needs to be applauded, yet the people's resilience is being constantly tested with multiple intersectional obstacles compounding the severity of the socio-economic impact.

Foreword: Insights from a Pandemic

Hanri Mostert

"We view this publication as a conversation between the present, the past and the future, which allowed our researchers to identify new pathways"

The 2020/2021 COVID-19 pandemic has been globally disruptive. Beyond the obvious health concerns it kicked up, it was disastrous to economies and societies. In particular, it brought South Africa's economic sustainability under serious threat. It has been a profound test of resilience for individuals, communities, businesses and governments alike. The COVID-19 pandemic was bound to have an effect on the mining sector, and since mining is such a crucial part of South Africa's socio-economic composition, knock-on effects were not far behind. South Africa's economy was already heading towards a recession before COVID-19 hit, with the "evil triplets" of poverty, unemployment and inequality as main concerns. People and communities depending on mining for their livelihoods were already taking strain as the mining sector's contribution to the GDP had been waning over the past 20 to 30 years.

When everyone was confined to their homes during the hard lockdown of 2020, the researchers at the DST/NRF South African Research Chair for Mineral Law in Africa (MLiA) started thinking and conversing about the effects that COVID-19 was having on the mining sector. We noticed, through wave after wave of infection spikes and one of the globe's slowest vaccine rollouts, that it was not only the mining sector suffering. The knock-on effect of a shrivelled economy gave society, as a whole, a reason to despair.

"the COVID-19 crisis has also augmented the challenge of closing in on the severe backlog on transformation and sustainable housing programmes"

One area where the consequences are particularly stark is at the level of local government. It is no secret that the financial sustainability of many municipalities across South Africa is under siege to the extent that basic service delivery has become almost impossible. The infrastructural weaknesses and capacity constraints were already a grave concern and cause for protest before COVID-19 struck, but during the lockdown years, the situation became dismal, and quite alarming. Many municipalities around South Africa are highly dependent on an operative mining sector to generate the revenue needed and receive support for service delivery. Where the mines were not performing well, reliant municipal economies became distressed. The downward spiral accelerated as the socio-economic infirmity of communities – especially those reliant on mining for their livelihoods – affected the ability of municipalities to extract revenue from their constituencies and simultaneously increased dependence on municipal services and welfare. And where such communities have been overly dependent on mines, their economic strategies for resilience tended to be limited.

As the exponential rise in homelessness over the past two years demonstrates, the COVID-19 crisis has also augmented the challenge of closing in on the severe backlog on transformation and sustainable housing programmes. Adequate housing provision has been one of democratic South Africa's ongoing challenges. Before the pandemic, the government was battling to meet the growing demand for housing. Under their operating licence conditions, some mining companies were already shouldering significant responsibilities of housing provision in several mining-dependent communities. But lockdown, physical distancing, displacement, and release of people from dormitory-type accommodation have placed an extraordinary strain on the country's ability to offer decent living conditions for thousands of destitute people.

Only now, in the aftermath, it might be easier to see the potential that was hiding inside this massively disruptive pandemic. Witnessing situations unfold around such economic, social and governance challenges like those mentioned, MLiA researchers agreed that responses needed to be formulated. We were intrigued by the rapidity with which situations shifted and realigned in new and interesting ways. In these shifting patterns, we saw opportunities for rethinking many of the ingrained social and economic patterns, and so we started debating what we, as a nation, needed to discontinue because it no longer served us, and what we needed to commence to move from imagining to realising a new future built on a "sunrise industry".

The question we kept circling was whether the COVID-19 crisis, as a disruptor, could invoke satisfactory responses to pre-existing problems, especially those exacerbated by the pandemic. Accepting COVID-19 for the disruptor it was, and imagining alternative routes towards a more resilient future became a matrix for thinking about the various moving parts that comprised responses to the COVID-19 crisis at various points over the past two years. We began capturing those thoughts on the News & Opinion section of the MLiA website, and soon witnessed the emergence of a larger commentary about resilience and transition, an empathic private sector and a responsible, accountable and competent State. Mining emerged as an enabler, and an increasingly urgent need for cleaner, sustainable energy (and the minerals to facilitate it) a driver.

In this volume of the MLiA Occasional Papers, editors Dr Richard Cramer and Dr Bernard Kengni have consolidated voices and views that emerged over the last two years. We view this publication as a conversation between the present, the past and the future, which allowed our researchers to identify new pathways to and drivers of change and respond to the potential of future crises by getting the right kind of mechanisms in place. Those mechanisms reside partially in the applicable legal and policy frameworks. For law researchers, the pertinent questions are about how we can use the laws we have to our best advantage under a new reality and how existing laws that no longer serve our purposes can be reformed.

"The COVID-19 pandemic was bound to have an effect on the mining sector"

COVID-19 in Wider Historical Context

Richard Cramer

Introduction

The COVID-19 pandemic is part of a far larger history of mining and disease in South Africa. It is vital that this collection of papers on the impact of COVID-19 on the mining industry be properly framed in a historical context, and the issues raised be understood as part of an ongoing trend. As an industry that has traditionally put profits ahead of the wellbeing of its employees, it has a poor record of dealing with past pandemics, which this paper seeks to highlight.

South Africa has recently emerged from its most traumatic wave of COVID-19 yet. The third wave was significantly more protracted than the first two waves[1] and saw new records for daily reported cases.[2] The last few months were not all bad news for South Africans, though, with vaccines becoming readily available to all adults.[3] As a result, there is room for optimism for the first time in a while.

The mining industry's vaccination drive has been particularly effective, although mandatory vaccination appears to be an issue the industry is sidestepping for the time being.[4] Vaccine mandates have already been a political hot potato in other countries, which have witnessed worker protests in response to mandates.[5] It will be necessary for the mining industry to grapple with the issue in the future, despite its positive vaccine rollout. However, as will become clear from an overview of the industry's responses to public health crises, benevolence has never characterised the mining industry's response to public health crises that threaten its employees.

The Intertwined Histories of Mining and Disease

Historically, the industry has had a poor response to protecting the wellbeing of its employees. The poor record of the mining industry has not just been a result of apathy, but also due to more sinister motives. Perhaps no episode better illustrates this than the outbreak of smallpox in the diamond fields of Kimberley in 1883. The outbreak was characterised by a deliberate attempt by members of the medical profession with ties to the mining industry – led by Dr Leander Star Jameson – to cover up the existence of smallpox.[6] This was achieved through the spread of misinformation and the suppression of the truth about the disease ravaging Kimberley – given credence by the medical credentials of the men behind it.[7]

"an industry that has traditionally put profits ahead of the wellbeing of its employees"

Many of these medical professionals had claims in the diamond fields and were supported by powerful men such as Cecil John Rhodes, who wished to prevent the closure of their mining operations. Rhodes insisted that the disease spreading throughout the diamond fields be merely classified as "chickenpox" instead of smallpox.[8] Action was only finally taken when public pressure demanded it due to an increase in mortality among whites.[9] Unfortunately, by that time, 700 people (in a town of 20, 000) had already perished.[10]

"it is vital that this apparently positive approach not lull us into a false sense of security"

The disregard for the wellbeing of mineworkers is similarly illustrated by the next major public health crisis that struck the mining industry – the Spanish flu of 1918–19. This pandemic came in three waves. The first and milder wave reached South Africa in September 1918 and hit the gold mines of the Witwatersrand.[11] Mines reduced their operations, and the industry had to establish temporary hospitals to manage the heavy caseload, due to insufficient space in existing mine hospitals.[12] Despite the high caseload, deaths among mineworkers during the initial wave were rare. The industry viewed the episode as a "temporary inconvenience without serious loss".[13]

However, the second wave was incredibly deadly, killing an estimated 300 000 people in South Africa in a six-week period over October–November 1918.[14] Needless to say, the mining industry was hit hard. By early November, an estimated 1 147 mineworkers had succumbed to the disease. Nearly a third of the 190 000-strong mining workforce in gold mines were admitted to mine hospitals during this period.[15]

A serious labour shortage resulted from the combination of deaths and disability, as well as from those fleeing the gold mines to escape the pandemic. In the aftermath, the mining industry sought to assuage fears over returning to the mines by claiming that mineworkers were likely better off at the mines. While there was a steady return of workers, this likely had more to do with food shortages in labour-sending areas than the mining industry's advertising.[16]

Escape from the gold mines was not truly an escape from the Spanish flu, however. Miners took the disease home when they returned. And those dependent family members who remained after losing a breadwinner who worked on the mines were left destitute.[17]

HIV: The Lingering Epidemic

The exploitative nature of the mining industry provided perfect conditions for the spread of HIV.[18] South Africa during the 1980s was characterised by the large-scale movement of people (both forced removals and voluntary migration in search of badly needed economic opportunities). The mining industry, as a core industry that relied on migrant labour, was at the centre of this.

Once HIV had arrived in the country, it found the ideal circumstances to spread in a country characterised by labour migration and large-scale population movements and relocations in search of job opportunities, as people struggled to survive in dire socio-economic circumstances.[19] Single-sex hostels and transactional sex (in a society characterised by widely unequal gender relations) contributed to the spread of HIV among mineworkers and the communities to which they returned.[20] As a result, the rate of HIV infection among mineworkers reached 10 percent in 1992 and climbed to a staggering 30 percent in 2000.[21]

As Phillips points out, when ARV drugs were rendered affordable, big mining companies made them available to those employees who needed them, and other companies followed this example.[22] While the mining industry's response to the HIV/AIDS epidemic can be praised for its effectiveness since the ARV drugs were affordable, it is an approach which appears to be largely motivated by mining companies' bottom lines. It simply made financial sense for companies to adopt this more proactive approach.[23]

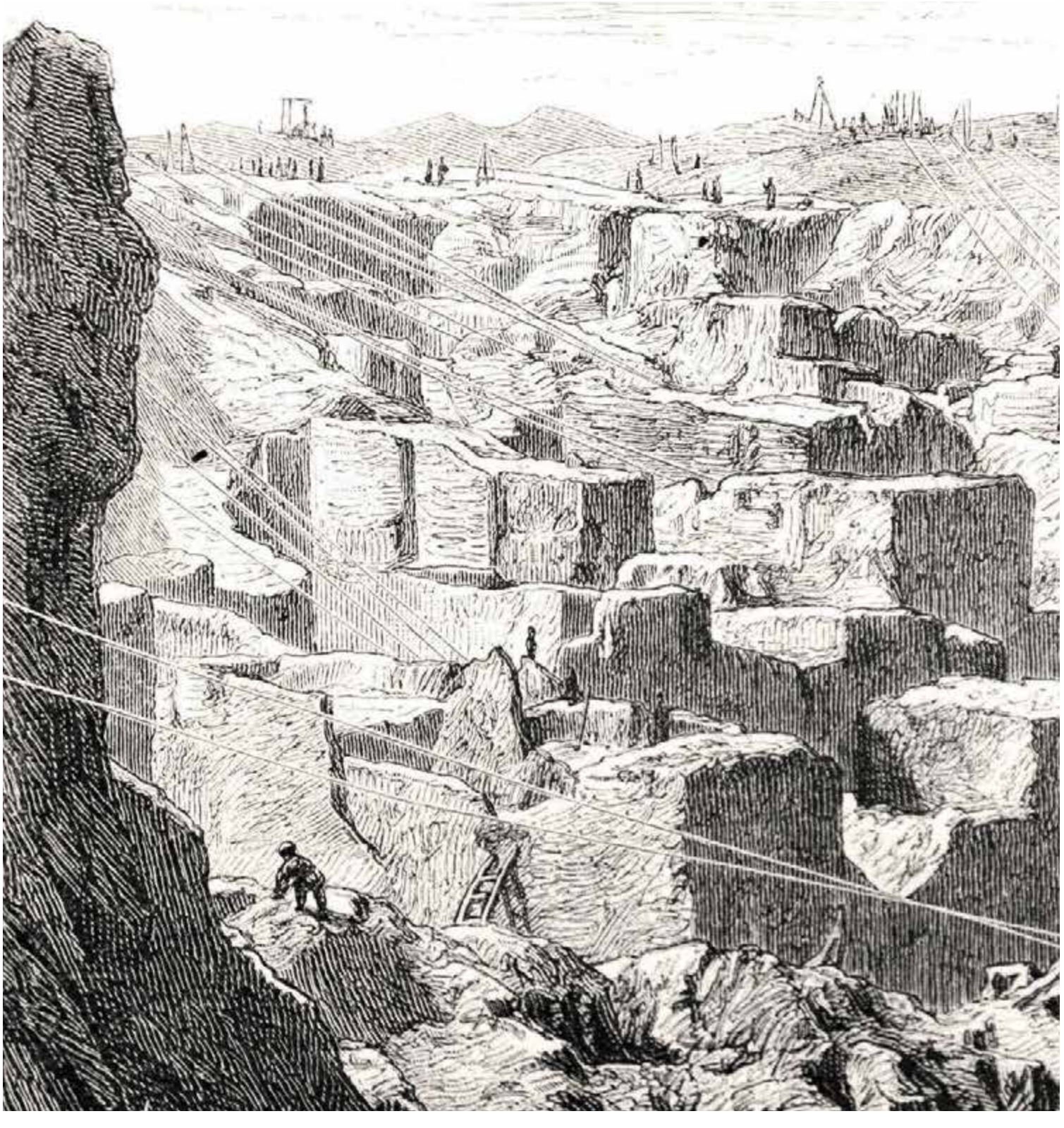
A Past We Cannot Ignore in the Present

What is critical to learn from the past is that the mining industry is not motivated by benevolent intentions when it comes to the wellbeing of its employees. While today it is difficult to conceive of a cover-up, the likes of which occurred in Kimberley in the 1880s, mining remains an industry primarily motivated by profit.

With COVID-19, the mining industry has, as expected, engaged in the necessary public relations, stressing its commitment to the wellbeing of its employees and their communities, and outlining the measures its members are taking, such as rapid detection and isolation of those who may be infected.[24] It is also providing daily statistics on the number of confirmed cases among its employees.[25] More recently, as aforementioned, the mining industry has been proactive in vaccinating its employees. As of 27 September 2021, a total of 208 127 employees and contractors in the industry have been fully or partially vaccinated, according to the Minerals Council South Africa's COVID-19 Dashboard.[26]

However, it is vital that this apparently positive approach not lull us into a false sense of security. COVID-19 is not smallpox; no single vaccine is a silver bullet. While we necessarily need to shift away from treating COVID-19 as endemic, rather than as a once-off pandemic we can hope will burn itself out,[27] it will be important that the industry adapt to keep mineworkers and their communities as safe as possible. And civil society must work to ensure continued transparency and accountability on the part of mine companies going forward.

"Historically, the industry has had a poor response to protecting the wellbeing of its employees."



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Making Sense of the COVID-19 Pandemic's Ripple Effect on Mining

Hanri Mostert

Introduction

Two years before COVID-19 hit South Africa, the President, in his inaugural State of the Nation address, optimistically dubbed mining the "Sunrise Industry".[1] Indeed, the mining industry's historic reputation as a key to growth and economic development, and the benefits that may emerge from exploration, production and beneficiation are tenets in the narrative of hope that accompanies the vision of a sunrise industry.[2] Over the preceding century, South Africa's mineral wealth[3] had attracted large capital investments. Integrated industrial value chains developed, and they generated significant economic value.[4] The expectation was on the "Sunrise Industry" to reduce unemployment and poverty by inviting investment into an economy underpinned by inclusive growth, competitiveness and transformation.[5] Mining was seen as a vital part of this plan.[6]

However, at the time of the President's "Sunrise Industry" speech, South Africa's economy was already on its knees, heading towards a recession.[7] The "evil triplets" of poverty,[8] inequality[9] and unemployment[10] already had the country in a stranglehold.[11]

And then COVID-19 descended and arrested the plans for a new prosperity.

This contribution revisits some of the main challenges the mining sector experienced because of the COVID-19 pandemic. With the benefit of hindsight, it asks how well the mining sector used the disruption to facilitate growth: what choices and actions served the sector, and what did not; what behaviours we should adopt; and what we should discard going forward.

How COVID-19 Challenged the Mining Sector

Before the onset of the COVID-19 pandemic, the mining sector was already challenged on at least four fronts.[12] First, it was battling to reduce input costs, in the face of unreliable power supply, which required additional capital expenditure to ensure backup power. Second, a declining trend in productivity was made more visible through a drop in commodity prices, which created the double problem of less product at lower profits. Third, an increasingly hostile investment climate was causing loss of interest in new explorations. And fourth, the burgeoning phenomenon of illegal mining was already threatening the viability of the mining sector, and by extension, also the economy at large.

The pandemic slowed progress on the core issues for the industry.[13] Frequently, the people most harshly affected were those depending on mining for their livelihoods.[14] With the onset of the pandemic, a series of new and/or exacerbated challenges also emerged.

"The 'evil triplets' of poverty, inequality and unemployment already had the country in a stranglehold."

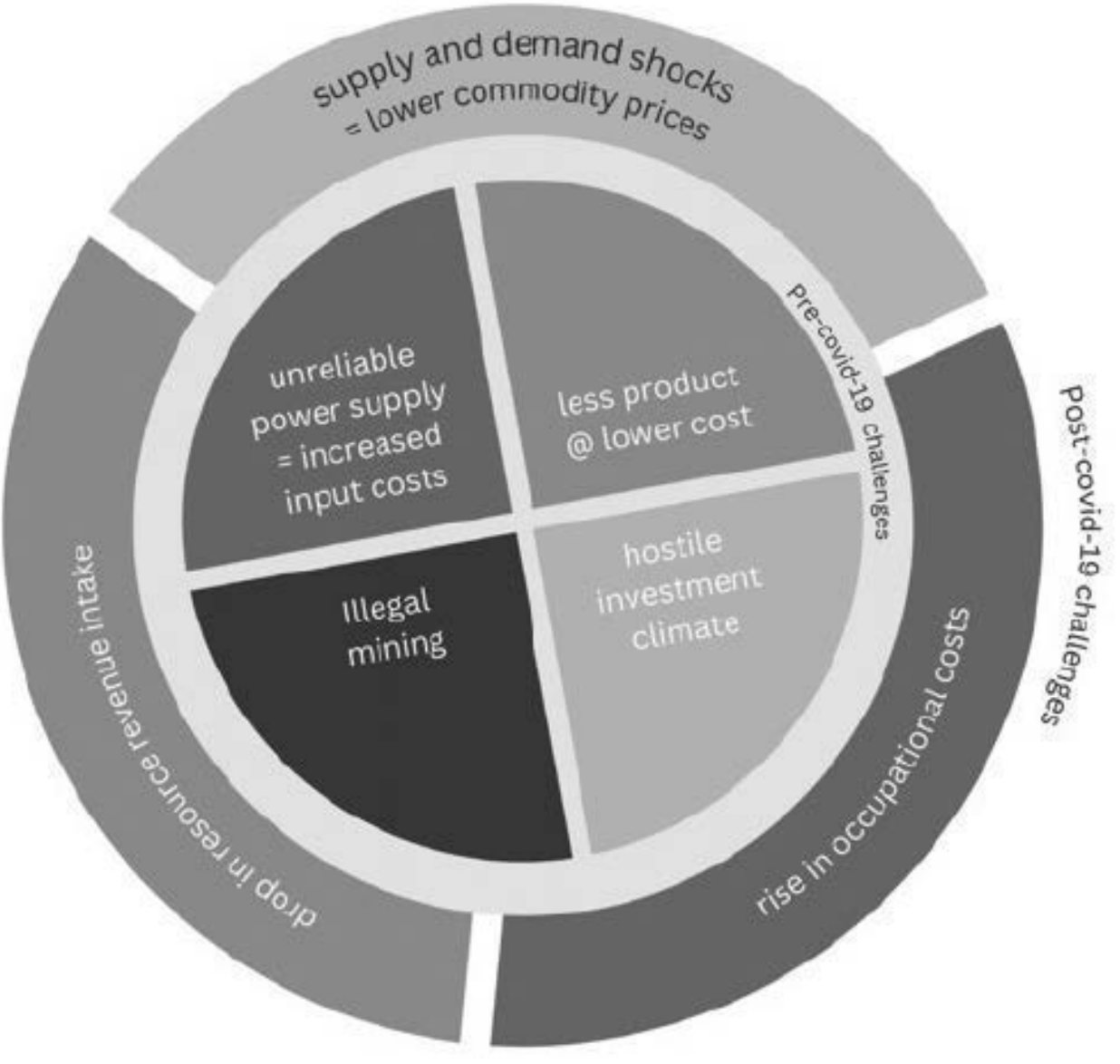

Figure 1: Challenges exacerbated by COVID-19

For the mining sector, the supply and demand shocks[15] caused by the pandemic were profound.[16] The 2020 lockdown – a precautionary measure to slow down infection rates – brought nearly all mining operations to an abrupt halt,[17] only to resume again at reduced capacity and limited possibilities of production.[18] Similar lockdown measures were implemented worldwide. They induced a downturn in mining output,[19] as well as in economic activity[20] in countries where South African commodities are sold. This was coupled with a fall in commodity prices, [21] which further reduced export incomes.[22] Across the board, base mineral prices (and even coal) saw a dramatic decline at the onset of COVID-19, and most recovered slowly (but for iron ore, which was selling at pre-pandemic prices by May 2020).[23]

There was a more varied effect in relation to precious metals, with silver and platinum group metals seeing differentiated declines.[24] Gold was the exception:[25] reputable as a safe asset for investment in a crisis,[26] the metal saw a rise of up to 80 percent at the onset of the pandemic. For South Africa, still a major producer of gold, this trend meant that some of the pandemic's adverse effects could be somewhat countered,[27] although South Africa's gold production had been declining under the plight of, among others, the four mentioned pre-pandemic challenges.[28]

"Frequently, the people most harshly affected were those depending on mining for their livelihoods."

Supply chain delays, cancellations and shortages demonstrated the disruptive effect of the pandemic well.[29] It highlighted many mining companies' extreme vulnerability to the risk of disruption. The complex of lockdown limitations and declining commodity prices placed many mining companies in distress, even ones that previously had been financially healthy. Particularly hard hit were the smaller companies: SMMEs often lack the resources to withstand the economic shocks occasioned by a massive disruptive event such as the COVID-19 pandemic.[30]

COVID-19 also caused a rise in occupational costs, which further influenced profits.[31] The realisation soon dawned that the mining sector represented an "essential service" that needed to remain operative for the sake of the South African economy. Already in April 2020, six weeks after the implementation of the hard lockdown, the Minister of Co-operative Governance and Traditional Affairs recognised that if mines were left fallow for too long, it would invite tampering with the stability of the ground at those mines, gasses might accumulate and the likelihood of disasters like methane gas release, seismicity and rock fall would become more prevalent. Hence workers were recalled to the mines in a phased recall, and production was gradually ramped up.[32]

As miners returned to work amid rising numbers of COVID-related deaths, ensuring workers' safety had to be a priority. A large-scale vaccination campaign was undertaken.[33] Employers in the mining sector were obliged to implement health and safety management systems to comply with legislative obligations towards employees, as pressed in the Mine Health and Safety Act[34] (MHSA) and accompanying Regulations. More screening and testing were done in the mining sector than in any of the other sectors.[35] A 2020 court order in *Association of Mineworkers and Construction Union (AMCU) v Minister of Mineral Resources and Energy*,[36] ensured mineworkers' safety during the COVID-19 pandemic.[37] The order sought to ensure a framework for compliance with COVID-19 safety guidelines for mines, issued by the Departments of Health, Employment and Labour, as well as the World Health Organisation.[38] The sector's response to the challenges of COVID-19 in the workplace included prevention measures, risk assessment (of workplaces and vulnerable employees), case management (which included screening, testing, isolation and quarantine), reporting, and regional coordination between mining companies and the public health system.[39]

The pandemic-induced decline in commodity prices also affected the government's resource revenue intake (through e.g. mining royalty payments, free carried interest and various forms of taxation and levies).[40] In resource-dependent economies like South Africa, revenue from the mining sector contributes significantly to the country's fiscal health.[41] Just before the pandemic, resource revenue was in the vicinity of R17 billion (around 1.3 percent of government revenues). At the onset of the pandemic, government revenues from mining took a particularly hard knock, as the 21-day hard lockdown in March/April 2020 saw total mining production fall by more than 47 percent year-on-year.[42]

How the Mining Sector Responded

The above are some of the examples of how the COVID-19 crisis has instigated, influenced or intensified change in the mining sector. The question is: how did the mining sector respond?

To the economic fallout, the South African Government responded with short-term and longer-term strategies which served the mining sector as much as it did other economic sectors. The COVID-19 Business Rescue Assistance (COBRA) initiative[43] and the support programme of the Unemployment Insurance Fund/COVID-19 Temporary Employer-Employee Relief Scheme (UIF/TERS)[44] are two noteworthy interventions. Stimulus packages, and financial support to specific initiatives, and even to municipalities, have been made available.[45]

Undoubtedly, the crisis response to COVID-19 required some Solomonic decision-making. Funds to combat other mining-related diseases, such as TB, HIV and silicosis, were repurposed to contribute towards measures that needed to be put in place to deal with the COVID-19 pandemic.[46] The decision to repurpose funds meant to combat other mining-related diseases may take its toll on the mining industry in the long run.[47]

Business in South Africa responded with various strategies, e.g. business or debt restructuring, expense reduction, or even mass retrenchment,[48] in attempts to find financial relief. Unemployment rates soared. The effects were devastating: it jeopardised individual livelihoods; mining communities became susceptible to economic inactivity; and there was regression on social development. Ultimately, even higher numbers of people were finding themselves living below the poverty line.

Despite operating under quite debilitating circumstances, mining companies came forward with mine-initiated work-creating opportunities, and support initiatives for struggling municipalities, e.g. for provision of basic services. The mining industry made several community interventions,[49] such as delivering millions of rands' worth of supplies to local hospitals, and donating medical equipment and supplies.[50] COVID-19 has also provided an opportunity to take a good, hard look at health and safety in the industry, to make adjustments, and to retain those measures that would lead to more sustainable practices in the sector, especially around housing, sanitation and health. The court in *Association of Mineworkers and Construction Union (AMCU) v Minister of Mineral Resources and Energy*[51] expressed some of these imperatives.

Measures adopted to address COVID-19 demonstrate the industry's commitment to ensure the ongoing health and safety of employees.[52] The Chief Inspector of Mines issued a "Guideline for the Compilation of a Mandatory Code of Practice for the Mitigation and Management of COVID-19 Outbreak" in terms of section 9(2) of the Mine Health and Safety Act in May 2020 and amplified the document in August 2021. It detailed mandatory requirements on employers in the mining sector to prevent the transmission of COVID-19 at their mines, and how the disease had to be managed on-site. The guideline focused strongly on risk management.

Global markets started recovering in 2021,[53] but South Africa's economic recovery has been sluggish, according to StatsSA's interpretation of IMF data.[54] Projections about how long it will take for the country's GDP to return to pre-COVID-19 levels are in the vicinity of five years.[55] However, the mining industry's ability to respond quickly to the crisis, and its resilience, left optimism about its ability to bounce back more quickly and make a meaningful contribution to the GDP.[56]

What Next?

The COVID-19 pandemic not only disrupted mining operations; it also disrupted preconceived ideas about transformation of the mining sector. The pressure of civil society and trade unions, and the desire for good PR may have been strong motivators of transformation in the mining sector under COVID-19, and they had profound and probably unexpected consequences for how we think about the importance of the mining sector for the health of the economy more broadly. The pandemic also compelled the mining sector to contribute to social well-being, thus shifting our perspectives about what can be expected of the mining sector in this regard. In addition, it has highlighted areas that were in desperate need of a regulatory overhaul.

"Undoubtedly, the crisis response to COVID-19 required some Solomonic decision-making. Funds to combat other mining-related diseases, such as TB, HIV and silicosis, were repurposed to contribute towards measures that needed to be put in place to deal with the COVID-19 pandemic."

From a legal and developmental perspective, one can already observe how the regulatory and policy frameworks have had to adapt because of the pandemic. The strengths and weaknesses displayed by the emerging regulatory and policy frameworks will need continuous monitoring and further adaptations may be recommended. Here it must suffice to isolate some of the expected trends in years to come.

"The realisation soon dawned that the mining sector represented an 'essential service' that needed to remain operative for the sake of the South African economy."

For one, the pandemic has necessitated better inter-departmental and inter-institutional communication and collaboration. It is hoped that this new-found collaboration will enhance innovative and integrative practices within the sector. Further improvement in this regard may well enhance profits and revenues within the sector.[57]

Secondly, one may well expect that the move towards a technology-driven turn in the mining sector will accelerate.[58] Parts of the sector have already seen increased digitalisation that enabled working remotely during the pandemic. This would have required adaptations of leadership and management skills, for the sake of transparency and accountability in a digitised workplace. But a technological turn need not stop at Zoom-rooms and digitisation of management teams. At present, many people are still needed to do the work, literally, "at the coalface" in the mining industry. The abovementioned 2020 AMCU judgment demonstrated just how difficult it was to find a viable approach to physical distancing underground.[59] Replacing manual labour with machine labour would transform the sector beyond recognition. When it does, the regulatory framework will have to ensure that the harsh consequences

such a turn might hold for job security of mineworkers will be anticipated and addressed appropriately.

The experience of the pandemic has also cast a light on the need to balance profits and economic growth with employee health and wellness. Greater efforts are made at creating "zero harm" environments at work.[60] This is also pulling through to an increased focus on environmental, social and governance (ESG) factors as yardsticks for success that transcend the usual measures of revenue and production. There is an increased urgency in contributions to reduce carbon emissions, and renewed commitment to promote diversity, human rights, governance and social justice.[61] In the mining sector, these are far-reaching developments.

If COVID-19 has taught the mining sector anything at all, it would be the importance of developing strategies to mitigate supply chain risk.[62] This may involve refreshing the evaluation of supply chain processes, identifying shortcomings, and incorporating new processes to ensure continuity, efficiency, resilience and adaptability to any future events that may place supply chains at risk.[63]

"The pressure of civil society and trade unions, and the desire for good PR may have been strong motivators of transformation in the mining sector under COVID-19, and they had profound and probably unexpected consequences for how we think about the importance of the mining sector for the health of the economy more broadly."

Fostering Resilience

As South Africa's mining industry, along with the rest of the world, moves into the just energy transition, the lessons learned in the mining industry around adaptability, rapid responses, and the importance of justice-based decision making will stand it in good stead. The COVID-19 pandemic has underscored the importance of an incentivised reskilling of the workforce and economic diversification[64] as attempts to ensure resilience. South Africa's levels of resilience will also depend on government's ability to keep communities healthy and safe. This applies not only to communities whence miners come (sending communities) but also to those communities around the mines, where job-creating initiatives and an upscaling of housing provision must take precedence.

"The COVID-19 pandemic has underscored the importance of an incentivised reskilling of the workforce and economic diversification as attempts to ensure resilience."

The examples mentioned above demonstrate how government and industry came together to keep the metaphorical ship that is our country afloat during the COVID-19 crisis. In the past, public-private partnerships in the mining sector contributed significantly to addressing or managing other crises, the HIV/Aids pandemic not least.[65] Such partnerships may present an important contribution to resilience. However, within this strength also lies a potential risk for the future: it will not bode

well for the integrity of government if the private sector is expected to fulfil government functions in the long run. It will be crucial for government to claw back these responsibilities and execute its functions in a reliable and transparent manner, honouring the Batho Pele principles[66] of service delivery. In an all-hands-on-deck scenario, enlisting the help of the private sector in partnership with the public sector is a possibility, but the responsibility ultimately remains with the government.

Productivity and profitability go hand in hand. A healthy workforce is more productive and more profitable than one that is unwell. A regulatory framework that encourages investment into the mining sector while protecting local livelihoods may improve the resilience of communities and municipalities. It is time the lessons of COVID-19 get put into laws.

"A healthy workforce is more productive and more profitable than one that is unwell."

1 C Ramaphosa "President Cyril Ramaphosa: 2018 State of the Nation Address" (16-8-2018) *South African Government* <https://www.gov.za/speeches/president-cyril-ramaphosa-2018-state-nation-address-16-feb-2018-0000> (accessed 19-10-2022). See also Government Communications (GCIS) "Highlights of the State of the Nation Address – Together We Move South Africa Forward" (16-2-2018) *GCIS 5* <https://www.gov.za/sites/default/files/gcis_documents/SoNA201hHighlights_0.pdf> (accessed 24-10-2022).

2 In 2019, the mining sector contributed 8.1 percent of GDP, R94.7 billion in direct investment and R348.2 billion of merchandise exports – a third of total export earnings. See J Ahadjie, O Gajigo, D Gomwalk & F Kabanda "Working Paper 357 – Impact of COVID-19 on Mining Case Studies of Four African Countries" (12-10-2021) *African Development Bank Group* <https://www.afdb.org/en/documents/working-paper-357-impact-covid-19-mining-case-studies-four-african-countries> (accessed 24-10-2022).

3 Well-known to consist of e.g. gold, diamonds, platinum group metals (PGMs) and coal, but also extending to inter alia chrome, rare earth minerals, vanadium and titanium. South Africa possesses ore reserves worth more than US$2.5 trillion, with 16 commodities ranked in the top IO internationally. See Statistics South Africa, 2020 (Pretoria); see also USGS "Mineral Commodity Summaries 2020" (31-1-2020) *USGS* <https://pubs.usgs.gov/periodicals/mcs2020/mcs2020.pdf> (accessed 8-12-2022). See Ahadjie et al "Working Paper 357 – Impact of COVID-19 on Mining Case Studies of Four African Countries" *African Development Bank Group* (2021).

4 G Montmasson-Clair "TIPS Working Paper – Mining Value Chains and Green Growth in South Africa: A Conflictual but Intertwined Relationship" (5-2015) *Trade & Industrial Policy Strategies (TIPS)* 4 <https://www.tips.org.za/research-archive/sustainable-growth/green-economy/item/2921-mining-value-chains-and-green-growth-in-south-africa-a-conflictual-but-intertwined-relationship > (accessed 24-10-2022).

[5] National Treasury (Economic Policy Division) "Economic Transformation, Inclusive Growth, and Competitiveness: Towards an Economic Strategy for South Africa" (27-8-2019) *National Treasury (South Africa)* <http://www.treasury.gov.za/comm_media/press/2019/towards%20an%20economic%20strategy%20for%20sa.pdf> (accessed 24-10-2022).

[6] J Netshitenzhe "Towards Mining Vision 2030" in S Valiani (ed) *The Future of Mining in South Africa: Sunset or Sunrise* (2018) 17 23–28. For a review of the historical role of mining as against agriculture and manufacturing in South Africa, see also H Bhorat, K Lilenstein, M Oosthuizen & A Thornton 'WIDER Working Paper No. 2020/50 – Structural Transformation, Inequality, and Inclusive Growth in South Africa" (2020) *UNU-WIDER* <https://www.econstor.eu/handle/10419/229274> (accessed 24-10-2022).

[7] JPS Sheefeni "South Africa's Economy has Taken Some Heavy Body Blows: Can It Recover?" (2-6-2022) *The Conversation* <https://theconversation.com/south-africas-economy-has-taken-some-heavy-body-blows-can-it-recover-183165> (accessed 24-10-2022).

[8] More than half of the population is classified as poor, i.e., earning less than R1 268 (roughly 84 USD) per month. See Department: Statistics South Africa "Statistical Release P0310.1 – National Poverty Lines" (2020) *Stats SA* 3 <http://www.statssa.gov.za/publications/P03101/P031012020.pdf> (accessed 24-8-2021). Poverty headcount ration of 55.5 percent; see also Department: Statistics South Africa "Poverty on the Rise in South Africa" (2017) *Stats SA* <https://www.statssa.gov.za/?p=10334> (accessed 24-10-2022).

[9] The country's Gini coefficient of 0.65 places it amongst some of the most income-unequal societies. World Bank Group "Overcoming Poverty and Inequality in South Africa: An Assessment of Drivers, Constraints and Opportunities" (2018) *World Bank* 42 <https://openknowledge.worldbank.org/bitstream/handle/10986/29614/124521-REV-OUO-South-Africa-Poverty-and-Inequality-Assessment-Report-2018-FINAL-WEB.pdf?sequence=1&isAllowed=y> (accessed 24-10-2022). South Africa's Gini coefficient was one of the highest inequality rates in the world in 2014: 0.63 (where zero expresses perfect equality, and 1 expresses maximal inequality); see World Bank "Gini Index – South Africa" *World Bank* <https://data.worldbank.org/indicator/SI.POV.GINI?locations=ZA> (accessed 17-2-2021). See also A van Dalsen & C Simkins "Does Gini Index Really Show that South Africa is the Most Unequal Society in the World?" (13-6-2019) *Politics Web* <https://www.politicsweb.co.za/opinion/does-the-gini-index-show-that-sa-is-the-most-unequ> (accessed 24-10-2022). See also Department: Statistics South Africa "Inequality Trends in South Africa: A Multidimensional Diagnostic of Inequality" (14-11-2019) *Stats SA* <https://www.statssa.gov.za/?p=12744> (accessed 24-10-2022).

[10] Almost half a million people were employed in the sector in 2019. However, employment in the mining sector has declined about 13 percent since 2012. More than a third (34.4 percent) of the South African population is unemployed. See R Maluleke "Quarterly Labour Force Survey (QLFS) Q2:2021" (2021) *Stats SA* <http://www.statssa.gov.za/publications/P0211/Presentation%20QLFS%20Q2_2021.pdf> (accessed 24-8-2021).

[11] More than half of the population was already classified as poor; more than a quarter (27.5 percent) was unemployed. Based on its Gini coefficient, SA was already one of the most income-unequal societies in the world.

[12] Ahadjie et al "Working Paper 357 – Impact of COVID-19 on Mining Case Studies of Four African Countries" *African Development Bank Group*.

[13] Y Rungasammy & R Nembudani "Covid Could Have a Positive Impact on Mining in the Long Run" (1-2-2021) *CMS South Africa* <https://cms.law/en/zaf/publication/covid-could-have-a-positive-impact-on-mining-in-the-long-run> (accessed 24-10-2022).

[14] A Lötter "The Impact of Government's Response to Covid-19 on Mineworkers in South Africa" (29-3-2020) *Mineral Law in Africa UCT* <http://www.mlia.uct.ac.za/news/impact-government's-response-covid-19-mineworkers-south-africa> (accessed 24-10-2022).

[15] Ahadjie et al "Working Paper 357 – Impact of COVID-19 on Mining Case Studies of Four African Countries" *African Development Bank Group*.

[16] See Parliamentary Monitoring Group "Minerals Council South Africa on Response of Mining Industry to COVID-19 and Related Matters" (20-10-2020) *PMG* <https://pmg.org.za/committee-meeting/31244/> (accessed 24-10-2022) for meeting summary and meeting report for the National Council of Provinces Land Reform, Environment, Mineral Resources and Energy meeting chaired by Ms T Modise.

[17] Coal mining operations, essential to the national electricity provider's continuity of supply, were deemed essential and permitted to remain active. See R Singh, S Masangi & S Bada "The Future of Coal in South Africa" (17-8-2022) *Mining Weekly* <https://www.miningweekly.com/article/the-future-of-coal-in-south-africa-2022-08-18> (accessed 25-10-2022). See also D Cavvadas & M Morolong-Nyezi "Update: Mining Declared an Essential Service and Operations Permitted to Resume at 50% Capacity" (17-4-2020) *Fasken* <https://www.fasken.com/en/knowledge/2020/04/17-covid-19-update-mining-declared-an-essential-service> (accessed 24-10-2022).

[18] After five weeks of hard lockdown, underground mining companies were permitted to operate at half capacity.

[19] Parliamentary Monitoring Group "Minerals Council South Africa on Response of Mining Industry to COVID-19 and Related Matters" *PMG*.

[20] Parliamentary Monitoring Group "Minerals Council South Africa on Response of Mining Industry to COVID-19 and Related Matters" *PMG*.

[21] Parliamentary Monitoring Group "Minerals Council South Africa on Response of Mining Industry to COVID-19 and Related Matters" *PMG*.

[22] Y Rungasammy & R Nembudani "Covid Could have a Positive Impact on Mining in the Long Run" *CMS South Africa*.

[23] Ahadjie et al "Working Paper 357 – Impact of COVID-19 on Mining Case Studies of Four African Countries" *African Development Bank Group*.

[24] Ahadjie et al "Working Paper 357 – Impact of COVID-19 on Mining Case Studies of Four African Countries" *African Development Bank Group*.

[25] Ahadjie et al "Working Paper 357 – Impact of COVID-19 on Mining Case Studies of Four African Countries" *African Development Bank Group*.

[26] O Gajigo & J Ahadjie "COVID-19 and Gold Mining in Africa – Turning Challenges into Opportunities" (23-6-2020) *African Development Fund* 3 <https://www.afdb.org/fr/documents/africa-economic-brief-covid-19-and-gold-mining-africa-turning-challenges-opportunities-volume-11-issue-5> (accessed 24-10-2022).

[27] Ahadjie et al "Working Paper 357 – Impact of COVID-19 on Mining Case Studies of Four African Countries" *African Development Bank Group*.

[28] See Statista "Production Volume of Gold in South Africa from 2010 to 2021" (1-2022) *Statista* <https://www.statista.com/statistics/981122/gold-production-south-africa/> (accessed 24-10-2022).

[29] OECD "Due Diligence of Mineral Supply Chains During the COVID-19 Pandemic" (2021) *OECD* <http://mneguidelines.oecd.org/due-diligence-of-mineral-supply-chains-during-the-covid-19-pandemic.pdf> (accessed 24-10-2022).

[30] See K Chege "Business Interruption Insurance in Light of COVID-19: Does It Cover Pandemic-Related Losses?" and "South Africa's Mining Companies in a Post-COVID-19 World: A Shift Towards Mergers and Acquisitions as a Measure to Alleviate Financial Distress, and Its Implications for Regulators", in the section titled *Doing Business During COVID-19* of this volume.

[31] Ahadjie et al "Working Paper 357 – Impact of COVID-19 on Mining Case Studies of Four African Countries" *African Development Bank Group*.

[32] Cavvadas & Morolong-Nyezi "Update: Mining Declared an Essential Service and Operations Permitted to Resume at 50% capacity" *Fasken*.

[33] M Zali "Mining Industry Vaccinates Over 200 000 Workers, Mandatory Vaccination Not on the Cards for Now" (23-9-2021) *Mail & Guardian* <https://mg.co.za/business/2021-09-23-mining-industry-vaccinates-over-200-000-workers-mandatory-vaccination-not-on-the-cards-for-now/> (accessed 11-10-2022).

[34] 29 of 1996.

[35] Parliamentary Monitoring Group "Minerals Council South Africa on Response of Mining Industry to COVID-19 and Related Matters" *PMG*.

[36] (2020) 41 *ILJ* 1705 (LC).

[37] G Mathiba "Mining Companies Should not Protect Only Mineworkers Against Covid-19, but Mining Communities as Well: *AMCU v DMRE & Others*" (4-5-2020) *Mineral Law in Africa UCT* <http://www.mlia.uct.ac.za/news/mining-companies-should-not-protect-only-mineworkers-against-covid-19-mining-communities-well> (accessed 24-10-2022). See also court order handed down by the Labour Court of South Africa, Johannesburg read with the Standard Operating Procedures for Mines: Following COVID-19 Lockdown, published under *Government Gazette* 43282 of 5 May 2022.

[38] Department of Mineral Resources and Energy Guideline for a Mandatory Code of Practice on the Mitigation and Management of Covid-19 Outbreak, published under *Government Gazette* 43335 of 18 May 2020.

[39] Parliamentary Monitoring Group "Minerals Council South Africa on Response of Mining Industry to COVID-19 and Related Matters" *PMG*. See also, for example, Mineral Council South Africa "Addressing COVID-19 in the Mining Industry" *Mineral Council South Africa* <https://www.mineralscouncil.org.za/work/health/addressing-covid-19-in-the-mining-industry> (accessed 24-10-2022).

[40] OECD "The Territorial Impact of COVID-19: Managing the Crisis Across Levels of Government" (10-11-2020) *OECD* <https://www.oecd.org/coronavirus/policy-responses/the-territorial-impact-of-covid-19-managing-the-crisis-across-levels-of-government-d3e314e1/> (accessed 24-10-2022).

[41] M Ericsson & O Löf "Mining's Contribution to Low- and Middle-income Economies" in T Addison & A Roe (eds) *Extractive Industries: The Management of Resources as a Driver of Sustainable Development* (2018) 51, 51–70.

[42] J Basquill "Shafted: Covid-19 Devastates South Africa Mining Industry" (7-8-2020) *Global Trade Review* <https://www.gtreview.com/supplements/gtr-africa-2020/shafted-covid-19-devastates-south-africa-mining-industry/> (accessed 6-12-2022).

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[45] H Bhorat & T Köhler "Lockdown Economics in South Africa: Social Assistance and the Ramaphosa Stimulus Package" (20-11-2020) *Brookings* <https://www.brookings.edu/blog/africa-in-focus/2020/11/20/lockdown-economics-in-south-africa-social-assistance-and-the-ramaphosa-stimulus-package/> (accessed 25-10-2022).

[46] See Anonymous "Masoyise Health Programme Calls for Reprioritisation of Pre-Existing Occupational Health Threats in the Era of Covid-19" (8-10-2022) *African Mining Market* <https://africanminingmarket.com/masoyise-health-programme-calls-for-reprioritisation-of-preexisting-occupational-health-threats-in-the-era-of-covid-19/8244/> (accessed 25-10-2022).

[47] B Kengni "COVID-19 Pandemic Era: A Time for Stricter Compliance with Occupational Health and Safety Guidelines in the South African Mining Sector" (9-2-2021) *Mineral Law in Africa UCT* <http://www.mlia.uct.ac.za/news/covid-19-pandemic-era-time-stricter-compliance-occupational-health-and-safety-guidelines-south> (accessed 25-10-2022).

[48] As pointed out in G Mathiba "The Looming Coronavirus-induced Mass Retrenchments: At the Crossroads of MPRDA & LRA" (29-4-2020) *Mineral Law in Africa UCT* <http://www.mlia.uct.ac.za/news/looming-coronavirus-induced-mass-retrenchments-crossroads-mprda-lra> (accessed 25-10-2022), retrenchments may have made business sense, but it resulted in unnecessary socio-economic hardship for retrenched employees.

[49] Parliamentary Monitoring Group "Minerals Council South Africa on Response of Mining Industry to COVID-19 and Related Matters" *PMG*.

[50] For example, the R101 million contribution by Assmang, Kathu Solar Park, Kudumane, Kumba, SIOC-cdt, and South32 in Kuruman, amongst others. See report in Parliamentary Monitoring Group "Minerals Council South Africa on Response of Mining Industry to COVID-19 and Related Matters" *PMG*.

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[52] P Colyn "Mining Industry Leads Way in Covid-19 Health and Safety" (21-1-2022) *Mining Weekly* <https://www.miningweekly.com/article/mining-industry-leads-way-in-covid-19-health-and-safety-2022-01-07/rep_id:3650> (accessed 25-10-2022).

[53] Ahadjie et al "Working Paper 357 – Impact of COVID-19 on Mining Case Studies of Four African Countries" *African Development Bank Group*.

[54] See Department: Statistics South Africa "Economic Recovery from COVID-19: Not All Countries are Equal" (6-9-2022) *Stats SA* <https://www.statssa.gov.za/?p=15690> (accessed 25-8-2022).

[55] Y Rungasammy & I Gyarmati "Four Covid-19-driven Trends Shaping the Future of Mining" (22-2-2022) *CMS South Africa* <https://www.lexology.com/library/detail.aspx?g=b4516cea-300d-4227-8815-7992b464ceb8> (accessed 24-10-2022).

[56] Rungasammy & Gyarmati "Four Covid-19-driven Trends Shaping the Future of Mining" *CMS South Africa*.

[57] Rungasammy & Gyarmati "Four Covid-19-driven Trends Shaping the Future of Mining" *CMS South Africa*.

[58] Guest Contributor "Technology Key to the Future of South Africa" (21-1-2020) *Mining Review Africa* <https://www.miningreview.com/gold/technology-key-to-the-future-of-the-mining-sector-in-south-africa/> (accessed 25-10-2022).

[59] Reuters Staff "South African Union Wins Case in COVID-19 Safety for Miners" (3-5-2020) *Reuters* <https://www.reuters.com/article/us-health-coronavirus-safrica-miners/south-african-union-wins-case-on-covid-19-safety-for-miners-idUSKBN22F0UP> (accessed 25-10-2022).

[60] Rungasammy & Gyarmati "Four Covid-19-driven Trends Shaping the Future of Mining" *CMS South Africa*.

[61] Rungasammy & Gyarmati "Four Covid-19-driven Trends Shaping the Future of Mining" *CMS South Africa*.

[62] OECD "Due Diligence of Mineral Supply Chains During the COVID-19 Pandemic" *OECD*.

[63] Rungasammy & Gyarmati "Four Covid-19-driven Trends Shaping the Future of Mining" *CMS South Africa*.

[64] SRK Consulting "How can Mines Help Diversify Their Local Economies?" (28-7-2020) *Mining Review Africa* <https://www.miningreview.com/gold/how-can-mines-help-diversify-their-local-economies/> (accessed 25-10-2022).

[65] R Cramer "Mining the Past in a Pandemic: Part III – The Lingering Epidemic" (6-11-2020) *Mineral Law in Africa UCT* <http://www.mlia.uct.ac.za/news/mining-past-pandemic-part-iii-—-lingering-epidemic> (accessed 25-10-2022).

[66] Department of Public Services and Administration "Eight Batho Pele Principles to Kickstart the Transformation of Service Delivery" *PMG* <https://static.pmg.org.za/docs/Principles_of_Batho_Pele_0.pdf> (accessed 25-10-2022).

The Impact of COVID-19 on the Petroleum Sector

Bongani Sayidini

Introduction

The COVID-19 pandemic had a devastating effect on the petroleum industry.[1] The global lockdown that started in early 2020 as a result of COVID-19 led to only essential travel and movement of goods and services being permitted under very strict conditions.[2] This significantly reduced the demand for motor, jet and ship fuels, resulting in their over-supply, and low prices.[3] The low demand for petroleum products in turn led to the demand for crude oil dropping to record lows.[4] As a result, global crude oil prices dropped to the lowest level in two decades, as crude oil producers sought refuge for their crude oil and were willing to pay a premium to let go of their barrels.[5] Amidst the global shortage of storage for crude oil, the price of the West Texas Intermediate (WTI) fell to negative territory on 20 April 2020, which was unprecedented.[6]

The decline in the oil price and limited storage capacity had a ripple effect on the global oil industry and specifically in Sub-Saharan Africa.[7] This is because major oil-producing countries in Sub-Saharan Africa such as Nigeria and Angola depend on higher oil prices for the functioning of their economies, since more than half of their national revenue comes from oil.[8] In South Africa, the global reduction in the oil price prompted by the COVID-19 pandemic resulted in a fuel price cut of R1,94 per litre and R1,40 per litre for petrol and diesel respectively along the coast in April 2020.[9] Storage capacity, price, levies, taxes and the exchange rate will, however, continue to play an important role in determining the fuel price in South Africa.[10] Moreover, increases of 15 cents per litre and 11 cents per litre were implemented on the general fuel levy and the Road Accident Fund with effect from 7 April 2021 to make up for the losses government suffered as a result of the pandemic.[11]

This paper reviews the impact of COVID-19 on the South African petroleum industry within the global context. It observes the vulnerability of major oil-producing countries in Sub-Saharan Africa whose economies are largely dependent on crude oil revenues. The paper proposes that South Africa's natural gas potential should be assessed, explored and possibly exploited to enhance the country's energy security of supply, and as a transitional fuel in the just energy transition.

"The decline in the oil price and limited storage capacity had a ripple effect on the global oil industry and specifically in Sub-Saharan Africa."

The Oil Price War of 2020 and COVID-19

The onset of COVID-19 national lockdowns in March 2020 coincided with the standoff between Russia and Saudi Arabia, two of the world's leading oil producers and key players within OPEC+.[12] OPEC+ emerged as a result of collaboration between Saudi Arabia and Russia in response to low oil prices that were experienced in 2015.[13] The oil

price went down as low as US$30/barrel in early 2016 and had a devastating effect on almost all major oil-exporting countries, with many experiencing mounting budget deficits.[14] Nonetheless, OPEC+ was formally established in December 2016 in a mutual pact between the Organization of the Petroleum Exporting Countries (OPEC) and 11 non-OPEC countries and managed to keep oil prices within the acceptable range of US$50/barrel–U$80/barrel.[15]

The 2020 standoff was as a result of Russia on 6 March refusing to cut its crude oil production consistent with OPEC's call to cut global oil production by 1.5 million barrels per day.[16] In a swift response two days later, Saudi Arabia announced that it would in turn increase its oil production by a staggering 3.3 million barrels per day by the end of March 2020.[17] The anticipated glut in the crude oil market immediately sent shock waves to the oil price.[18] The COVID-19 travel restrictions that were introduced in March 2020 in most countries to curb the spread of the virus exacerbated the effect of the oil price war.[19] Combined with the low demand for motor, jet and ship fuels they further drove down the price of brent crude oil to US$23.3 by 29 March 2020, a level last seen 20 years ago.[20]

"Major oil-producing countries in Sub-Saharan Africa, such as Nigeria and Angola, have economies that are not sufficiently diversified; therefore, their fiscus, being largely dependent on oil revenues, took a serious knock when the oil price crashed in 2020 as a result of the oil price war and COVID-19."

The low brent crude oil demand as a result of COVID-19 led to the petroleum industry reconsidering planned upstream investment.[21] Big projects that would add significant oil and gas production were delayed or cancelled, cutting planned capital expenditure by about 20 percent in 2020, estimated at US$100 billion (R1.5 trillion) compared to 2019.[22] Research and development (R&D) is another casualty within the petroleum sector. The cutting of R&D budgets as a result of COVID-19 has the potential to curtail innovation and efficiencies that could be realised in the near and long term.[23]

Impact on Sub-Saharan Africa

Major oil-producing countries in Sub-Saharan Africa, such as Nigeria and Angola, have economies that are not sufficiently diversified; therefore, their fiscus, being largely dependent on oil revenues, took a serious knock when the oil price crashed in 2020 as a result of the oil price war and COVID-19.[24] For example, and a similar trend can be seen in Angola, the Nigerian government is 57 percent reliant on oil revenues, and over 90 percent of foreign exchange earnings come from oil exports.[25] Worse, more than half of these revenues are used to service foreign debt, leaving very limited resources to mitigate the effects of the COVID-19 pandemic.[26] Losses from the oil price shock of 2020 resulted in a reduction in Africa's export revenues of approximately US$100 billion.[27]

In South Africa, the low petroleum product prices that prevailed in 2020 accelerated the shutdown of a number of refineries in South Africa.[28] The shutdowns were initially planned to be temporary; however, taking into account investments required to upgrade the refineries to comply to the new fuel specifications to be introduced in the country in 2023, major oil companies such as Shell, BP and TotalEnergies have decided to permanently exit the refinery business in South Africa.[29] The impact of COVID-19 on the South African petroleum industry could have been more severe had the country been a notable producer of crude oil and natural gas.

South Africa is, however, not a notable producer of crude oil and natural gas; the country imports these commodities.[30] Relying on imports for energy security of supply is, however, not ideal, since South Africa could be cut-off from such supplies due to a fallout in diplomatic relations or a catastrophic event that closes trade routes, such as happened during the COVID-19 national lockdowns in 2020.[31] Such an occurrence could lead to the disruption of economic activity in the country, and result in significant revenue losses, as has been demonstrated by the continued power supply disruptions due to limited energy security of supply (electricity generation capacity).

South Africa's Experience – Ensuring Continued Gas Exploitation Activities During the Height of a Pandemic

In June 2020, the Minister of Mineral Resources and Energy gazetted the regulations to permit upstream petroleum operations to commence.[32] The regulations also granted permission for the sourcing of drilling rigs internationally to conduct drilling operations offshore of South Africa,[33] and for the travelling of drill rig operators and associated technical personnel to South Africa to support drilling operations.[34] The drilling operators had to develop a COVID-19 workplace plan prior to the commencement of operations,[35] and implement appropriate measures to protect the health and safety of workers.[36] This included the screening and testing of the drill rig operators and associated technical personnel,[37] and their quarantine for at least fourteen days upon arrival in the country.[38] Furthermore, the operators had to provide for quarantine facilities for their personnel in the event of a positive for COVID-19 test.[39] The data collected during screening and testing had to be submitted to the Department of Health.[40]


OIL

The regulations enabled the drilling of the Luiperd well by TotalEnergies in August 2020.[41] The well made yet another discovery of gas and condensate in deepwater offshore Block 11B/12B on the South Coast of South Africa, some 175km to Mossel Bay.[42] The two wells that have been drilled by TotalEnergies and joint venture partners in the same block in 2019 (Brulpadda well) and 2020 (Luiperd well)[43] discovered sufficient gas and condensate to supply the PetroSA Gas to Liquids refinery, enabling it to continue producing liquid fuels such as petrol, diesel and paraffin.[44] The discovered gas could furthermore supply gas to the currently diesel-run Gourikwa peaking power plant that is adjacent to the GTL Refinery.[45] The continued supply of gas to the GTL refinery in Mossel Bay, and potential supply of the gas to the Gourikwa power plant will be a major boost to the Mossel Bay and Southern Cape economies. The indigenous gas can also be used to support re-industrialisation and the manufacturing of petrochemicals and fertilisers in the country.

Conclusions

The negative impact of COVID-19 on the petroleum industry limited the response of countries to respond to the devastation brought by the pandemic, which requires significant financial resources to mitigate the associated health risks and spur economic recovery.[46] Major oil-producing countries in Sub-Saharan Africa were hit particularly hard due to their economies being heavily reliant on oil revenues.[47] Sub-Saharan Africa is particularly at risk.[48] While the global economic decline brought by COVID-19 negatively impacted the South African economy, the effect could have been more severe had the country been a notable producer of oil and gas, and therefore more reliant on revenues from the oil and gas sector. The broader implication for South Africa, in not exploring for and producing its indigenous oil and gas resources, is the risk to the country's economic revival, because of a reliance on the importation of oil and gas for energy security of supply to drive the economy.

South Africa is proving to be prospective in gas as demonstrated by the significant gas and condensate resources that have been found by TotalEnergies and partners on the south coast. The demonstrated potential could bring in much-needed investment into the country's upstream petroleum sector, and thus aid the country's economic growth. Consistent with the Constitution, such oil and gas resources must ultimately be developed in an environmentally sustainable manner, while promoting justifiable economic and social development.[49]

"The broader implication for South Africa, in not exploring for and producing its indigenous oil and gas resources, is the risk to the country's economic revival, because of a reliance on the importation of oil and gas for energy security of supply to drive the economy."

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The Impact of the COVID-19 Pandemic on the Mining Industry: Regulatory Challenges in Zambia

Fatima Mandhu

Introduction

COVID-19 has caused a novel pandemic which has massively impacted on the global economies. The economy of Zambia is among those impacted with apparent effects on the mining sector of the country. This has led to an increase in regulatory challenges faced by the mining industry.[1] This article considers a number of regulatory challenges experienced by the mining sector during the pandemic. The first part gives a general outline of the challenges experienced in the mining sector. The second part highlights COVID-19-related regulations in the mining sector. Lastly, the article elaborates on the regulatory challenges faced by Zambia's mining industry.

COVID-19 and its Impact on Zambia's Mining Industry

Zambia's economic situation prior to COVID-19 was already compromised and constrained by unsustainable public debt, high poverty rates and inequality.[2] However, COVID-19 exacerbated the situation by impacting on all sectors of the nation's economy. As such, the mining industry recorded relatively insurmountable challenges. This is so as Zambia was ill-equipped to respond to the added economic challenges ensuing from the pandemic. For example, the major challenges that have continued to affect the performance of the mining sector include, among others, the gradual decline of copper prices over the years. It was reported that mining companies in Zambia suffered a 30 percent decline in revenue three months prior to April, in 2020, due to the pandemic.[3] Adding on, the constantly changing policy and tax environment in Zambia has been the major contributor to the regulatory challenges in the mining industry.[4] The effect of the aforementioned has reflected in the country's copper becoming more expensive, resulting in investors being more reluctant to start new mines or expand old ones.[5]

In addition, Zambia's economy generally indicated that most challenges arose on account of the negative effects from implementation of the public health measures adopted to contain the pandemic.[6] These included, firstly, delayed delivery of imports and exports due to lockdown measures and travel restrictions imposed internationally, regionally and locally to curb the spread of the very infectious disease COVID-19. Secondly, the need to prioritise the safety of the workforce by implementing regulations such as allowing employees to work from home resulted in the reduction of the workforce. Thirdly, the effects of the pandemic led to the reduction of production due to delayed deliveries and staffing shortages. The regulations further resulted in high production costs due to reduction of the labour force at any given time during the lockdown. Consequently, both mining companies and the government experienced reduced revenue caused by the increased turnaround time.[7]

"the major challenges that have continued to affect the performance of the mining sector include, among others, the gradual decline of copper prices over the years"

COVID-19-related Regulations Introduced in Zambia

A regulation is defined as a rule or order having legal force issued by an administrative agency.[8] It can be regarded as an act or process of controlling by rule or restriction. With regards to regulatory challenges, these characterise a situation involving an interaction with a regulatory authority or compliance with regulatory requirements and the difficulties that follow. Using the definition of regulations stated above, the mining regulatory challenges in Zambia are therefore issues that confine the industry to regulatory authorities or its status of compliance with the regulatory requirements, or put differently, the law authorising its operations. The mining industry in Zambia is primarily regulated under the Mines and Minerals Development Act 11 of 2015 (MMDA). The MMDA regulates the requirements to be met for issues to do with mining rights, licences, royalties and charges, among other things. The mandate to implement the Act is placed on the Ministry of Mines and Minerals Development that manages the development of mineral resources, monitors and regulates the operations of the mining industry, and monitors seismic activities. In particular, the mines safety department is responsible for public health and safety in exploration, mining and mineral activities.[9] Through this department the mining sector is required to give assurance that a mine shall comply with its environmental and social impact statements.

In terms of relevance, other legislation such as the Public Health Act, Chapter 295 of the Laws of Zambia (PHA), regulates the prevention and suppression of diseases including those associated with mining activities. This Act is of particular importance since it imposes a duty on the local authorities to take measures to prevent any water pollution dangerous to public health. The PHA substantially regulates the prevention and suppression of diseases and controls all matters connected to public health in Zambia. Section 114 of the PHA empowers the Minister to enact regulations in relation to any infectious disease such as COVID-19. The regulations that have been enacted are discussed in the next part of the article.

"Glencore, a mining company, attempted to close its mining operations for three months in 2020 citing low commodity prices and an increase in operational costs caused by the pandemic as the main reasons."

The Zambian Government instituted various regulations in an attempt to circumvent the negative impact COVID-19 has had on the economy. There was approval of funding through the Contingency and Response Plan under the Disaster Management and Mitigation Unit (DMMU) to overcome the threat of the virus on people's lives, livelihoods and overall economic activity.[10] One of the regulatory measures put in place was the Public Health (Infected Areas) (Coronavirus Disease 2019) Regulations Statutory Instrument No 22 of 2020. The regulations provide for institutions to continue operations as long as they adhere to the sanitation and hygiene requirements in public premises. Non-compliance with the regulations attracts a penalty. The penalty is in the form of a fine of ZMW750 or imprisonment of a term of six months, or both.[11] Due to the sanction imposed for non-compliance, the mining industry was compelled to observe all the health regulations initiated by the government. These regulations are among the many others that were introduced to curb the spread of COVID-19.

"Apart from the attempted closure of Glencore's mining operations, the company made a claim under its mining contract of *force majeure* on ground of the pandemic."

Regulatory Challenges Faced by the Mining Industry in Zambia

The travel restrictions, shutdowns and port closures that followed the measures taken to curb the pandemic resulted in decreasing demand for minerals internationally.[12] By way of an example, in Zambia, Glencore, a mining company, attempted to close its mining operations for three months in 2020 citing low commodity prices and an increase in operational costs caused by the pandemic as the main reasons.[13] It was further reported that the struggles witnessed in meeting the forecasted potential generation of copper were due to a tough regulatory backdrop in Zambia prior to the pandemic.[14] It can therefore be seen that the pandemic altered the course of trade in the mining industry as a result of the additional regulatory measures implemented by the government. Apart from the attempted closure of Glencore's mining operations, the company made a claim under its mining contract of *force majeure* on the ground of the pandemic. The clause allows for parties to be excused from contractual obligations on the basis of unforeseen circumstances beyond the party's control that hinder that party from performing their obligations.[15] The risk attached to the *force majeure* claim was the likelihood of the loss of 11 000 jobs.[16] The government, however, refuted the claims expressing that there was no sufficient ground on which to base *force majeure* because events did not make continued mining impossible. The effect of this could have negatively impacted on the production capacity of the mining industry due to declined human resource. This kind of dispute clearly describes how the pandemic has increased the regulatory challenges in the mining industry.

Notably, the regulatory effects of the pandemic on the mining industry have extended to issues dealing with employment and production in the mining industry. This prompted the Minister of Labour and Social Security to issue the Employment Code (Exemption) Regulations of 2020.[17] The regulation was the latest piece of legislation in Zambian employment law which basically exempted certain classes of employees and sectors from specific law in the Employment Code Act 3 of 2019. It suspended a number of obligations. These obligations included the grant of annual leave to employees and payment of annual leave benefits by the employer, as well as payment of basic pay during the period of forced leave taken by an employee to mitigate the loss on the employer. The introduction of the employment regulations resulted in reduced human resource and a further decline in production in the mining sector.

Conclusion

This article provided a general outline of several challenges experienced by Zambia's mining industry during the pandemic. It has also pointed out the regulations that were implemented as a result of the pandemic in an attempt to circumvent the negative effects of the pandemic in the mining industry. The statutory laws and significant regulations that followed produced double-edged results with the decline of market for copper on one hand and the increased production costs of copper on the other. More particularly, regulatory challenges with respect to Zambia's mining industry have been outlined. In addition, the already-existing principle of *force majeure* at contract law has shown further regulatory challenges during the pandemic, with Glencore as a good example. In continuance, the impact of the pandemic on employment matters has incidentally been noted to have subsisted following the introduction of particular exemptions regarding the benefits of employees. As a concluding remark, the regulatory challenges experienced in the mining industry during the pandemic have significantly impacted the Zambian economy.

"The statutory laws and significant regulations that followed [the pandemic] produced double-edged results with the decline of market for copper on one hand and the increased production costs of copper on the other."

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Mining Companies Should Not Protect Only Mineworkers Against COVID-19, but Mining Communities as Well: *AMCU v DMRE and Others* (2020) 41 *ILJ* 1705 (LC)

Gaopalelwe Mathiba

Introduction

On 1 May 2020, South Africa celebrated Workers' Day. On the same day, the Labour Court heard an urgent application brought by one of the trade unions operating in the mining sector, the Association of Mineworkers and Construction Union (AMCU), against the Minister of Mineral Resources and Energy.[1] In this matter, AMCU was primarily calling for the gazetting of detailed regulations and necessary measures to be put in place by mining companies to ensure that mineworkers are adequately protected from contracting the novel coronavirus (COVID-19) in line with the objectives of the Mine Health and Safety Act 29 of 1996 (MHSA). The AMCU argued further that this protection, if provided, should be extended to mining communities and families of mineworkers. This case was informed by the gazetting of adjusted lockdown regulations in terms of section 26 of the Disaster Management Act 57 of 2002 (DMA) which permitted mining operations to resume to a limited extent during the pandemic.

Beyond question is that the stricter lockdown regulations had far-reaching effects in all sectors across the country and the world.[2] After the initial 20-day hard lockdown declared on 25 March 2020, the mining industry was not spared and all mining companies were forced to operate with only 50 percent of workforce and production capacity. The exceptions were the few specified opencast and coal-producing mines supplying State power utility Eskom that were permitted to operate at full capacity but with strict caution.

The case

A brief background to this case is that community networks and other civil society groups wrote an open letter addressed to President Cyril Ramaphosa and the Minister of Mineral Resources and Energy, Hon Gwede Mantashe. In this letter, these groups expressed their shared concerns about the lack of clear measures for the protection of mineworkers and affected mining communities against the COVID-19 virus. The Minister responded positively by issuing updated regulations ordering that a screening and testing programme must be put in place for mineworkers across all mining operations in the country, and that mining companies must make and implement arrangements to transport their employees to and from work, as well as to avail quarantine facilities to those who test positive for COVID-19. However, these regulations failed to go far enough in terms of ensuring that mineworkers are adequately protected from virus contraction. They did not make any reference to, for example, the need for personal protective equipment and medical facilities. It is for this reason, among others, that AMCU had to move an urgent application in the Labour Court calling for the Minister to ensure that mineworkers, their families and mining communities are adequately protected in line with the provisions of the MHSA.

"However, these regulations failed to go far enough in terms of ensuring that mineworkers are adequately protected from virus contraction."

Quite interestingly, the community network called the Mining Affected Communities United in Action (MACUA) applied to intervene in this matter as an *amicus curiae*, i.e. "a friend of the court". In justifying its *amicus curiae* application, MACUA submitted that the safety measures and safeguards that need to be put in place for mineworkers' interests, as argued by AMCU, should be extended to affected mining communities and be developed in consultation with those communities.[3] The national co-ordinator of MACUA stated that the "mineworkers are not separate from communities" and they do not "leave the threat of the virus behind at work". Further, they "are already at risk because most people in rural communities do not have proper access to water and some have lung issues from the air pollution that comes with mining".

"In justifying its amicus curiae application, MACUA submitted that the safety measures and safeguards that need to be put in place for mineworkers' interests, as argued by AMCU, should be extended to affected mining communities and be developed in consultation with those communities."

Ultimately, the Labour Court ruled in favour of AMCU and MACUA. Some of the key orders of the court was that the Chief Inspector of Mines must by 18 May 2020 gazette minimum guidelines for mining companies on managing and mitigating the impact of the COVID-19 pandemic under the terms of the MHSA and, in doing so, to "meaningfully engage with the relevant trade unions … and Mining Affected Communities in Action, and such other interested persons".[4]

Later Developments

More than a year later since the judgment has been handed down, it is disconcerting to observe that not much of protection has been offered by mining companies to their surrounding mining communities, let alone to mineworkers. It is assumed that the primary reason that may be accounting for this inaction is the economic non-viability on the side of the mining companies. As of 22 September 2021, the Mineral Council of South Africa CEO – Roger Baxter – reported that about 203 007 mineworkers have been vaccinated, a figure he went on to put differently as amounting to about 45 percent of the entire workforce in the mining industry.[5] While this has been described as "a massive mining industry effort", it is argued that the industry has not done enough in fast-tracking the immunisation of its workforce. This is evident from the sector's failure to immunise at least more than half of its workforce in the period between February 2021 (when it launched its vaccination campaign) and September 2021. The same failure has also been observed in the sector's protection of mineworkers' families and their communities. For instance, it was only in September 2021 that one of the mining companies operating in the North West province, Impala Platinum, launched and activated its first mobile vaccination site in Rustenburg's Freedom Park community, marking the start of a campaign to host vaccination days in other surrounding mining communities.[6]

Observantly, while most establishments across various sectors are strongly considering the adoption of mandatory vaccination policies, the mining industry has so far been reluctant to propose this as a way to boost its vaccination drive. However, one might also argue that this reluctance is well calculated since compulsory vaccination in the mining industry has not been received well in other countries. For instance, the mineworkers in Australia have recently embarked on protest action against mandatory vaccination.[7] So perhaps the South African mining industry is seeking to avoid similar cases that may cause instability in the sector.

Conclusion

The *AMCU v DMRE and Others* case adds to a growing number of judgments that call for the mining sector authorities to respect and observe meaningful engagement with affected communities. Ideally, this should be considered as a general rule and/or aspect of the social license to operate not only for COVID-19 case, but any other epidemics that are mining related. The judgment further sends a strong message to mining companies that mining communities also need their protection and not only their workers. The author endorses the Labour Court judgement in this matter as it affirms the mining communities' right to be recognised as interested and affected parties that must be "meaningfully engaged". However, from the above cited instances, it is concluded that much has not been done to implement this well-thought-out judgment and this calls for great concern.

"More than a year later since the judgment has been handed down, it is disconcerting to observe that not much of protection has been offered by mining companies to their surrounding mining communities, let alone to mineworkers."

1 *Association of Mineworkers and Construction Union v Minister of Mineral Resources and Energy and Others* (2020) 41 *ILJ* 1705 (LC).

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The COVID-19 Pandemic Era: Challenging Compliance with Occupational Health and Safety Guidelines in the South African Mining Sector

Bernard Kengni

Introduction

During 2020, besides coal mining much needed for energy generation,[1] most of the South African mining industry was shut down during level-five lockdown, and operated with limited capacity upon resumption of operations.[2] Mines resumed in batches scaling up towards 50 percent or more employment, depending on the lockdown level and the capacity of given mining spaces to allow workers back safely.[3] Since January 2021, more miners returned to work, although the industry's COVID-19-related deaths continued to increase.[4] This has necessitated more efforts to ensure workers' safety and overcome the challenges and shortcomings in the fight against COVID-19 from 2021 onward.[5]

The mining industry is already risky for mineworkers. Workers are likely to be harmed (at times fatally) or contract infectious diseases as they work in confined spaces where infections through the inhalation of toxic pollutants such as silica thrive.[6] In South Africa, occupational diseases are believed to constitute a significant cause of all mining-related fatalities.[7]

The country reported 3 458 cases of occupational diseases in the mining industry (including silicosis, pulmonary tuberculosis and noise-induced hearing loss) in 2018.[8] In the same period, 30 fatalities due to occupational diseases were reported in the industry.[9]

The COVID-19 pandemic has exacerbated existing challenges caused by these diseases as mines have had to deal with COVID infections and resulting death.[10] It is likely to delay the zero-harm target in the mining sector set by the Department of Mineral Resources and Energy (DMRE) and other stakeholders.[11] The zero-harm target entails "the goal that every mineworker should return home unharmed every day".[12]

Health and Safety Issues

The concern with COVID-19 in the mining sector is two-fold. First, the South African mining industry had already been battling HIV and tuberculosis (TB), associated with an increased risk for COVID-19 mortality.[13] Such comorbidities are a threat to workers' lives and a threat to the overall workforce and industry's performance since COVID-19 adversely impacts on the respiratory system.[14]

"in urgent attempts in 2020 to address the impact of COVID-19 on the health of mineworkers and communities, resources meant for the treatment of existing diseases had to be reallocated, adversely impacting existing health programmes and services in the industry"


COVID-19
PROTOCOLS

Secondly, much attention has been placed on combatting the COVID-19 pandemic. As a result, efforts towards combatting previous existing diseases or infections may be relaxed or put on hold. For example, in urgent attempts in 2020 to address the impact of COVID-19 on the health of mineworkers and communities, resources meant for the treatment of existing diseases had to be reallocated, adversely impacting existing health programmes and services in the industry.[15]

Though the reallocation was necessary due to the urgency to limit the pervasive effects of the COVID-19 pandemic, pre-existing occupational diseases must not be neglected as the industry continues to deal with COVID-19 in 2021.

Therefore, it is critical for all stakeholders to double health and safety efforts to ensure that COVID-19 does not get out of control in the sector. Such efforts can be realised if there is proper compliance with health and safety guidelines.

Health and Safety Guidelines

There are various instruments to guide health and safety in the South African mining industry. The Mine Health and Safety Act (MHSA)[16] provides guidelines for protecting employees' health and safety and other persons at mines. Specifically, the MHSA requires employers take reasonably practicable measures to ensure the health and safety of mineworkers and persons who are likely to be affected by mining activities.[17] Also, because the COVID-19 pandemic was unprecedented, the DMRE gazetted the COVID-19 safety guidelines for mines,[18] as ordered by the Labour Court.

The guidelines seek to assist mining companies "as far as reasonably practicable to establish and maintain a COVID-19 prevention, mitigation and management programme at mines".[19] The purpose is to ensure that mineworkers returning during or after lockdown and other persons at mines are protected from contracting COVID-19 at the workplace. The guidelines also aim to ensure that communities in contact with mineworkers are protected.

One main criticism of the guidelines, also raised by the Association of Mineworkers and Construction Union (AMCU), is the requirement that employees are to be screened for COVID-19 rather than being physically tested before entering the mines.[20] Screening ignores asymptomatic patients, who can be carriers or affected by the virus without being ill.[21] Simply questioning patients about their possible contact with the virus cannot, therefore, be conclusive as to whether the person is at risk or not.[22] Special care must be taken, as far as practically possible, to ensure that whoever goes into the mines is entirely safe as workers often work in confined spaces where social distancing and ventilation can quickly become an issue. Besides the criticism, the potential of the COVID-19 safety guidelines for mines to promote and achieve the good management of the COVID-19 pandemic in the mining industry is limited as a result of miners' backgrounds, as explained below.

Challenge: Socio-geographic Factors

The mining industry is one of the sectors that never shut down completely as a result of COVID-19, especially due to the need for coal necessary for the running of Eskom coal-fired power stations. It is expected that compliance with the above guidelines and a successful vaccination in the sector would lead to its full operation by limiting the effects of COVID-19, but other challenges are likely to derail the anticipated success.

"Workers are likely to be harmed (at times fatally) or contract infectious diseases as they work in confined spaces where infections through the inhalation of toxic pollutants such as silica thrive."

Miners come from various backgrounds, including communities in which mines operate. The challenge here is that COVID-19 protocols and guidelines are not always respected in such communities. As a result, miners are more likely to contract COVID-19 in their respective communities than in mines and possibly become a health hazard at mines.[23] Also, crowded hostels which historically serve as fertile ground for the rapid spread of TB and HIV are even more challenging as they have been key in transmitting COVID-19.[24] Therefore, the spread of COVID-19 in mines remains difficult to contain if efforts to limit such spread are not replicated in mine communities and labour-sending areas.

Way Forward

Loss of mineworkers to COVID-19, or the confinement of workers who have contracted COVID-19, would be a massive blow to the mining industry's workforce. It would also exacerbate the economic challenges of an industry that is already battling with recession.[25] To achieve a safe and effectively productive mining industry, disease burden in mines along with added COVID-19 risk must be equally prioritised and managed. To that effect, there must be compliance with the COVID-19 safety guidelines for mines and the recommendations issued by the departments of health, employment and labour, and the World Health Organisation.

The mining industry is already committed to testing, screening and vaccine rollout, among other COVID-19 good practices. However, compliance and vigilance with these good practices are key, and mines cannot let their guards down. Such compliance will ensure that codes of practice are effective in screening and especially testing to ensure that no infected person or carrier of the virus is at the workplace, especially those with the new and more contagious variant. It is more beneficial to do regular testing and not just screening.[26] Thus,

controls must be put in place to safeguard all personnel from the risk of infection, and, in the case of mission-critical staff, a clear succession plan must be adopted should they fall ill. Similarly, monitoring outbreak location data and taking a flexible approach to manage resource deployment helps enable miners to safeguard personnel while maintaining optimum productivity. Companies should consider detailed scenario planning and monitoring to enable workforce responses in near real time. The rapid pace of COVID-19 developments requires the regular review of these scenarios and the development of suitable workforce-management responses.

It is hoped that as the government maintains efforts towards achieving herd immunity, mining communities and labour-sending areas will pose less threat to miners' health. This will further ensure, as far as possible, that when workers go into mines, they are safe. All these measures are necessary to promote health and safety in the mining industry while pursuing economic development, since the industry employs thousands of miners and accounted for about 8 percent of the country's GDP in 2020.[27]

It is also important to prepare for recovery once the market begins to normalise. This should be done by developing plans that ascertain workforce requirements. It should also include determining how quickly workforce and work conditions can be re-established as required, and developing a strategy to implement recovery plans.

"there must be compliance with the COVID-19 safety guidelines for mines and the recommendations issued by the departments of health, employment and labour, and the World Health Organisation"

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Migration, Mining and the COVID-19 Pandemic in South Africa: Re-evaluating the Position of Vulnerable Workers

Julie-Hannah Massyn

Introduction

The COVID-19 pandemic has had adverse consequences in terms of direct health threats due to infection and the serious socio-economic fallout of the prolonged government-mandated shutdowns.[1] While no one has escaped this uncertain period entirely unscathed, migrant workers are more vulnerable both to the disease's health and its socio-political and economic implications.[2] Migrant labour, both domestic and international, is an entrenched aspect of South Africa's extractives industry.[3] There are specific public health concerns associated with the intersection of migrant labour and mining work, and migrant workers are also more vulnerable to socio-political and economic disruptions.[4] However, the pandemic has also demonstrated the important role that migrant workers play both on the mines and in the economic systems within which they operate. This piece considers the unique challenges faced by migrant workers in South Africa's extractives sector during the COVID-19 pandemic, and proposes some solutions.

Background

South Africa as we know it today is built not only on the mining sector, but also on the back of an abundant and cheap labour force.[5] Since the late 1800s, South Africa's extractives industry has relied on domestic and international migrant labour.[6] The areas close to South Africa's mines have historically not had a sufficient population to meet the industry's voracious appetite for labour.[7] To meet this need, mine owners and government looked to extract black labour from other parts of South Africa and many countries across Africa – most significantly from Lesotho and Mozambique, and from countries as far away as Malawi, Angola and Tanzania.[8] The upshot was that the mining sector came to rely almost wholly on a labour structure consisting of large numbers of men (and they were virtually exclusively men) moving continually to and fro across vast areas.[9]

Though migrant labour on the mines has decreased somewhat in recent years,[10] these kinds of workers still make up a significant portion of the workforce. Today, approximately 10 percent of the South African mining workforce is drawn from four of its neighbouring nations – Mozambique, Lesotho, Eswatini and Botswana.[11] Domestically, many individuals still travel long distances seeking employment on the mines – located predominantly in the northern reaches of this country – from areas further south, particularly the Eastern Cape.[12]

"the mining sector came to rely almost wholly on a labour structure consisting of large numbers of men (and they were virtually exclusively men) moving continually to and fro across vast areas"

The Vulnerability of Migrant Workers

There are several factors that contribute to migrant mining workers being more vulnerable to the adverse effects of the current pandemic. Direct health concerns due to infection arise from migration in itself and from the living and working conditions on the mines.[13] Underground mining is particularly hazardous from a communicable disease perspective.[14] Mineworkers travel deep into the earth in large groups within the confines of elevators.[15] Upon reaching their destination, they must work side-by-side in enclosed spaces.[16] For this reason, during the first national lockdown (that started in March of 2020) the South African government ordered that almost all underground mining operations be placed on care and maintenance.[17] Indeed, the SARS-CoV-2 rate of infection in South Africa's miners is higher than that of the general population.[18]

Mining work is associated with a set of health concerns that are especially alarming in the context of the COVID-19 pandemic. Asthma is a relatively well known work-related disease in mineworkers.[19] Mineworkers are also at higher risk of contracting silicosis and tuberculosis, both of which – like COVID-19 – attack the lungs.[20] There is increasing evidence that those who suffer from chronic respiratory diseases and conditions, like silicosis, tuberculosis and asthma, are more vulnerable to suffering severe illness, developing long-term effects and dying from COVID-19.[21] Additionally, HIV/AIDS has long been an issue disproportionately affecting mineworkers, and particularly migrant mineworkers.[22] The immuno-deficiency that characterises this disease also makes one more likely to develop serious symptoms from SARS-CoV-2.[23]

"this period has also revealed both how valuable migrant workers are for South African mines, and how we can adequately compensate and protect them"

The living conditions of migrant workers on the mines also contribute to their vulnerability during this pandemic. The large hostels historically favoured by mining houses provided the ideal spaces for transmission of communicable diseases.[24] Despite the formal abandonment of the preference for mining hostels, living conditions in South African mining towns remain poor.[25] Overcrowding, poor sanitation and bad infrastructure are persistent, serious problems.[26] Migrant mineworkers, moreover, are more likely to live in these kinds of cheap, communal facilities, as the bulk of their wages must be sent home to their families.[27] Living together in such close quarters, often without easy access to running water, increases the risk of contracting communicable diseases such as COVID-19.[28] Beyond this, the migrant labour system provides an avenue for communicable disease to spread between labour-receiving and labour-sending areas.[29]

The socio-economic structure within which migrant mineworkers must operate is also a source of vulnerability.[30] These individuals often support networks of dependants in their home regions, and so the bulk of their wages must be repatriated to their place of origin.[31] Moreover, prices on the mines are often high.[32] Within this environment, loan sharks flourish.[33] In this way, a poverty trap is set up in which mineworkers are not able to save money and so cannot insulate themselves financially against economic shocks.

The pandemic has had serious consequences for migrant workers' ability to access decent work.[34] Response measures put in place to combat COVID-19, such as lockdowns and border closures, stranded many in their countries of origin, on unpaid leave,[35] where employment opportunities may not be plentiful. Others remained in their country of employment, away from their families.[36]

To compound the matter, migrant workers also typically have fewer enforceable rights as to their employment.[37] If the breadwinner were to fall ill or perish, whole families could be pushed into severe poverty. Worse, a recent study suggests that between 10 and 30 percent of COVID-19 patients develop long-lasting, often debilitating symptoms.[38] These symptoms include intense pain and fatigue, breathing difficulties, and increased risk of blood clots.[39] COVID-19's long-term effects can persist for up to nine months.[40]

The extraordinary financial cost of the pandemic has decreased the number of jobs available across many sectors. This has a disproportionate impact on migrant workers as well as labour-sending areas more generally.[41] Countries such as Lesotho and Mozambique still rely heavily on income sent home from South African mines.[42] At the same time, this places increased pressure on migrant workers to return to work and earn, thereby placing themselves at risk.[43] Nevertheless, the closed borders and slow-down in operations kept many from returning to work, whatever their needs or desires.[44] There is also the threat that the hurdles in crossing borders may decrease the use of cross-border migrant labour going forward.[45]

Paradoxically, the pandemic also seems to have reframed the way in which large mining companies view their foreign employees. Under the colonial project and apartheid, migrant workers were valued only in terms of the cheap labour they could provide.[46] However, when South Africa's mines reopened early this year, mining corporations put significant effort into retaining and returning their migrant employees.[47] This was not the first time that mining companies were required to facilitate large-scale, international transportation of foreign employees back to the mines during this pandemic – in July of 2020, the same challenge was undertaken.[48] Migrant labour seems now to be regarded by mining entities as a source of uniquely skilled workers, without which South African mines cannot function.[49] The value of migrant mining workers brings us to the question of how these individuals can be better protected.

Solutions

The first step is to review social protection schemes and minimum wages to ensure that migrant workers are adequately covered, taking into account the special circumstances that apply to them.[50] Second, migrant workers' contracts ought to be revised to make provision for so-called black swan and other unforeseen events.[51] Third, minimum health and safety standards must be applied consistently to all workers, which may require increased State oversight.[52]

"Migrant mineworkers ... are more likely to live in these kinds of cheap, communal facilities, as the bulk of their wages must be sent home to their families"

Last, and perhaps most ambitiously, it may be time to revisit the structure of the migrant labour system. Early on, mine owners rejected the notion of facilitating the relocation of miners along with their families due to the costs involved.[53] This proposed move would be a solution to many of the negative aspects of the migrant labour system, including its disruptive effect on social and family bonds, and the poverty trap arising from mineworkers having to send the bulk of their earnings home. However, the economic difficulties of supporting family migration may be less daunting today. Many employment sectors, such as the military, provide for families moving alongside the primary employee. Moreover, South Africa today has a more stable internal workforce, and a lower proportion of the mineworkers are required to commute long distances to the mines.[54] This means that fewer families would require industry support to relocate.

Conclusion

Migrant labour remains a significant aspect of the South African mining industry. The COVID-19 pandemic has highlighted several ways in which this class of workers is particularly vulnerable. There are significant public health concerns associated with the intersection of the migrant labour system and mining work. The socio-economic context within which these workers must operate also give rise to severe vulnerabilities. However, this period has also revealed both how valuable migrant workers are for South African mines, and how we can adequately compensate and protect them. Now is the time to act on these insights.

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Impact of COVID–19 in the Mining Sector: A New Safety Challenge

Refilwe Ngwaku

Overview of COVID-19 in South Africa

COVID-19, first reported in Wuhan, China, was seen as a conspiracy theory by many. Some thought it was a minor nuisance and dismissed its threat.[1] Little was it known that it would become a threat to millions of lives worldwide. In South Africa, however, the government responded promptly to the declaration of COVID-19 as a global pandemic and public health emergency by the World Health Organisation (WHO).

In March 2020, President Cyril Ramaphosa announced a national lockdown to curb the spread of COVID-19 in South Africa. However, the nationwide lockdown had a detrimental impact on the South African economy, particularly the mining sector, as it is one of the pillars of economic development in South Africa.[2]

Besides economic development, safety management is one of the most important performance indicators for the mining industry. The mining industry in South Africa has an ultimate goal of zero harm when it comes to safety.[3] The successful implementation of this goal depends on mine management, workers and safety committees. This piece investigates whether COVID-19 added to the already existing safety burden in mines.

History of Safety in South African Mines

Keeping mines safe is one of the fundamental commitments made by the mining industry. In 2003, the mining sector agreed to reduce the number of fatalities by 20 percent.[4] For this reason, South African mining companies, employees, unions and regulatory authorities have made significant strides to reduce the number of fatalities in mining.[5] In 2019, the South African mining fatalities stood at 51 from a staggering number of 270 fatalities in 2003.[6] The number of fatalities has significantly reduced over 23 years.[7] This indicates that the sector places safety at the forefront of all operations.

Even with the significant strides to mitigate safety challenges in mines, there was a slight increase in fatalities in 2020, according to Statista Research Development.[8] According to the Department of Mineral Resources and Energy (DMRE), the most common fatalities in mines are caused by the fall of rocks, transportation and machinery.[9] The fact that mines have never reached the fatality rate of zero shows that there is still a lot of work to do in terms of safety.

In 1996, the Mine Health and Safety Act (MHSA) was passed to promote safety in the mining industry and respond to mine safety challenges. The Act stipulates several measures that the mining industry must adhere to. The Act provides that the employer is responsible for safety at the workplace. Employers are, therefore, under pressure to ensure that the work environment is safe or face sanctions including penalties, fines and imprisonment. Similarly, section 25(1) of the Act states that every mine with 20 or more employees must have a health and safety representative for each shift at each workplace.[10] The role of the safety representative is to identify potential hazards and risks to health and safety. Safety management in mines requires resources, skills and expertise. Operations at South African mines consist of more

than 20 workers deployed in different stations within the mine. This means that each station needs a resource (health and safety representative) with the required skill set and expertise.[11] However, the history of safety in South African mines indicates that safety at mines is a major challenge. The COVID-19 pandemic has worsened the situation.

Overview of Safety Amid COVID-19

In addition to the already ailing safety management in South African mines, COVID-19 is an added burden. Mineworkers work in close contact during mining operations, especially underground. This is from entering the mine through a cage that accommodates more than 10 individuals, to being transported to specific workspaces either by vehicle or conveyor belt. These activities involve individuals interacting without socially distancing.

"South African mining companies, employees, unions and regulatory authorities have made significant strides to reduce the number of fatalities in mining"

COVID-19 poses a new challenge to the safety of mines. Common safety challenges in mines are based on cause and effect, either caused by negligence or mechanical failures.[12] While working as a team is a safety measure in mining, COVID-19 safety measures require minimising such contact. This means that some of the previously implemented strategies to keep mines safe are no longer sufficient. As a result, new strategies that accommodate COVID-19 had to be developed and implemented in a short space of time.[13]

With the MHSA, safety in the South African mining sector is well regulated. The DMRE is responsible for overseeing safety in the South African mining industry in line with the MHSA's primary objective: to protect the health and safety of persons in mines. In conjunction with the MHSA, the chief inspector of mines developed a guideline for the management of the COVID-19 pandemic at mines.[14] According to the guideline, employers are mandated to prepare and implement a mandatory code of practice. The code of practice is aimed at preventing, mitigating and managing COVID-19. In addition, the mines are required to prepare a principal mining safety management plan for each principal mining hazard present at a mine site. Failure of the employer to comply constitutes a criminal offence. This means that an additional safety plan for COVID-19 was mandatory.

"safety management is one of the most important performance indicators for the mining industry"

Mines' Response to New Requirements

Implementing the new code of practice could not have been a trivial process. COVID-19 came as a shock to everyone, including the mining industry. The industry needed to go back to the drawing board. Mines traditionally draw up their performance and financial plans the year prior. Performance plans involve operational planning such as deciding on projects to be undertaken for the year (project prioritisation) and the allocation of resources (people who will carry out the duties). Financial plans entail the amount allocated to all operations and projects.[15]

The new code of practice involved a shift of priorities. COVID-19 requires daily screenings, which requires resources to be available to carry out the duty, including personal protective equipment (PPE) to ensure that employees are safe and protected. This places a financial burden on mines, especially when providing COVID-19 PPE was not part of the mines' budget. Aspects such as education and training needed to be taken into consideration.

To further understand the impact that COVID-19 had on mine safety, several mine personnel, environmental officers, safety officers and occupational hygienists were informally asked questions relating to safety and COVID-19.[16] Most of them mentioned that implementing the new code of practice was complex and involved a lot of paperwork and added to their already existing pile of work. This shows that COVID-19 placed a burden on the already existing pressure on mine safety.

"While working as a team is a safety measure in mining, COVID-19 safety measures require minimising such contact. This means that some of the previously implemented strategies to keep mines safe are no longer sufficient."

All mines report their performance in their annual integrated reports. Such reports comprise their financial performance, production, consumption of commodities and future plans. The 2020 annual reports of five mines were critically analysed to evaluate how the different companies have developed and put in place detailed COVID-19 protocols supported by the mandatory code of practice.[17] The evaluation showed that safety protocols include, among others, social distancing, PPE, and daily screening access management. Further, mining companies followed mandatory codes of practice according to the integrated reports. Mines responded promptly to curbing the spread of COVID 19 in the workplace, thus maintaining the goal of zero in terms of the pandemic.

Conclusion

COVID-19 presented a new safety challenge in the mining industry. New safety strategies needed to be developed and implemented. Safety budgets needed to be adjusted. COVID-19 has accelerated the need for new work models, and promoted the notion of doing much with less. Although COVID-19 presented a new challenge, for which the mining industry quickly put the required infrastructure in place, employees' health and safety was proven to be at the forefront of mine operations.

"the new code of practice was complex and involved a lot of paperwork and added to their already existing pile of work. This shows that COVID-19 placed a burden on the already existing pressure on mine safety"

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[10] Mine Health and Safety Act 29 of 1996.

[11] S 25(1) of MHSA.

[12] MIT "Introducing Global Standards to Ensure Safe Environments for Miners" *Mission 2016: The Future of Strategic Natural Resources* <https://web.mit.edu/12.000/www/m2016/finalwebsite/solutions/safety.html> (accessed 5-11-2021).

[13] Guideline for the Compilation of a Mandatory Code of Practice for the Mitigation and Management of COVID-19 Outbreak (2020) GN R280 in *GG* 43335 of 18 May 2020.

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[15] P Bak "Selected Aspects of Financial Planning at Mining Companies" (2012) 36 *AGH Journal of Mining and Geoengineering* 49, 49–50.

[16] The author took time out to informally interview certain colleagues who work specifically with mine safety.

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Vaccine Mandates in the Mining Industry: Legal Perspectives

LLB Graduates

Introduction

According to Minerals Council SA, as of 6 December 2021, 311 237 mineworkers and contractors have been vaccinated.[1] By 3 May 2022, this number had only increased by 27 206, with the total number of vaccinated mineworkers and contractors sitting at 338 443.[2] Thus, the uptake of vaccinations among mineworkers has slowed significantly, and a substantial portion of the workforce remains unvaccinated, despite vaccines becoming freely available to South African adults. The possibility of the introduction of a vaccine mandate in the mining industry remains a contentious issue. Unions are supportive of the vaccine drive in general, but are opposed to vaccine mandates in the industry.[3] However, some mining companies are moving ahead with mandatory vaccine policies for their employees.[4] Such mandates will inevitably have to overcome legal and political hurdles.

Several recent LLB graduates from the University of Cape Town have grappled with the issue. Together, their contributions canvass the range of possible legal arguments for and against implementing a vaccine mandate in the mining industry.

Theron Naidoo

The purpose of this contribution is to explore, through a legal lens, the possibility, efficacy and possible requirement of a mandatory vaccine policy in the mining sector. Extensive research has been done on why vaccines are an effective and necessary tool to combat COVID-19. However, when determining any mandatory vaccine policy to be forwarded, such determination must be made in light of the section 12(2) constitutional right to bodily integrity, the section 10 right to human dignity and the section 27(1)*(a)* right to health care services.[5]

In the South African context and when exploring the possibility of a mandatory vaccine policy in the mining sector, regard must be had to the Mine Health and Safety Act (MHSA)[6] which places a duty on an employer to provide and maintain a safe and risk-free working environment.[7] This section mirrors section 8(1) of the Occupational Health and Safety Act,[8] which is not industry specific. This section of the Occupational Health and Safety Act is a broad provision. However, this responsibility, in light of the pandemic, can be seen to include the provision of PPEs and access to the vaccine, as workers are in very close proximity to each other – underground, in the washrooms and in mining communities.

The legal framework and the intricacies that flow from the Occupational Health and Safety Act for a mandatory vaccine policy will inevitably result in a limitation of the section 12(2) right in the Constitution. In such instances, it must be noted that rights in the Bill of Rights are not absolute. Limitations on those rights are permitted in terms of a law of general application, to the extent that it is reasonable and justifiable in an open democratic society based on human dignity, equality and freedom (section 36(1)). A limitation of rights must consider the nature of the right, the importance of the purpose of the limitation, the nature and extent of the limitation, the relationship between the limitation and its purpose, and the availability of less restrictive means to achieve the limitation's purpose.

"A limitation of rights must consider the nature of the right, the importance of the purpose of the limitation, the nature and extent of the limitation, the relationship between the limitation and its purpose, and the availability of less restrictive means to achieve the limitation's purpose."

The primary purpose of the limitation of the section 12(2) right for the mining industry would be to ensure workplace safety in the industry. This purpose aligns with that of the MHSA. The health and safety of employees must be at the forefront of considerations and will give effect to the possible secondary purpose of limitation, which is to achieve an uninterrupted mining operation, not halted by a COVID-19 outbreak. The profitability of the industry relies on the health of the mineworkers and as such, the relationship between the limitation and its purpose is a fortified and direct one. There are less restrictive and invasive means (such as the provision of PPE) but they do not achieve the intended purpose with equal efficacy to the vaccine; vaccines have proven to be the better option, consistently providing adequate protection against developing strains and variants that may emerge. One would therefore not fault a company for opting for a method that ensures a better result (that being vaccines).

Considering the above in conjunction with the confined working quarters of mineworkers, wherein it is virtually impossible to avoid close contact with your co-workers, it is probable that a vaccine mandate will be a permissible limitation on the section 12(2) right. But the policy a workplace employs on vaccines must be entrenched in mutual respect and reciprocity. There must be a balance between economic activity, public health imperatives, constitutional rights (including bodily integrity, religion and freedom) and the efficient operation of the company.[9]

Principles of consultation are entrenched in our constitutional disposition. Section 33(1) of the Constitution states that everyone has the right to lawful, procedurally fair and reasonable administrative action. Furthermore, section 9 of the National Economic Development and Labour Council Act states that when there is an amendment of laws or transitional measures, the Minister shall invite representatives of the employer and other relevant stakeholders to attend a meeting. This further entrenches the importance of the consultation process.

Iman Kathrada

Many labour unions have been encouraging mineworkers to receive the vaccine. The National Union of Mineworkers (NUM) spokesperson, Livhuwani Mammburu, said that the vaccination of mineworkers is imperative because of their crowded underground working conditions.[10] He also stated that NUM was assisting mining companies in promoting the vaccine but did not support the opinion that the vaccine should be mandatory.

While the government still has primary control over the administration of vaccines, employers can issue company policies that require mandatory vaccinations. The Occupational Health and Safety Act (OHSA) requires an employer to provide and maintain a safe working environment in so far as it is reasonably practicable. Additionally, the Mine and Health Safety Act states that every employer has to take reasonable and practicable measures in order to ensure that the mine is designed, constructed and equipped to provide safe and healthy working conditions.[11]

"Requiring mandatory vaccinations may be a potential violation of the employees' constitutional rights, including the right to bodily integrity."

The National Health Act[12] gives effect to the constitutional right to bodily integrity,[13] and also provides that medical treatment or health services may not be administered to any person without their consent. In terms of the Act, consent is defined as full knowledge, which includes the person's health status, the various options available, benefits and risks, and informing the person of their right to refuse such treatment. There are certain exceptions to consent, such as in a court order or where the failure to administer treatment would result in a serious risk to public health.[14]

Requiring mandatory vaccinations may be a potential violation of the employees' constitutional rights, including the right to bodily integrity. While these rights may be limited to an extent, in terms of section 36(1) of the Constitution, it would have to be a reasonable and justifiable limitation in an open and democratic society based on constitutional values.

However, it could be argued that a policy aimed to make the COVID-19 vaccine compulsory is necessary to fully ensure the protection of mineworkers and lower the rate of transmission for companies to achieve safe working environments. Mineworkers face a much higher risk of contracting the COVID-19 virus than the general population as the conditions of mining make social distancing almost impossible to achieve, as well as the fact that mineworkers are faced with poor ventilation and air pollution.

Employers seeking mandatory vaccinations for employees would first have to make a reasonable assessment depending on certain factors. In terms of the OHSA, these would include the severity and scope of the risk of contracting COVID-19 in the workplace, the nature of the work environment and work performance, and any other means available to minimise the risk of contracting the virus.

The enforcement of mandatory vaccinations may be a reasonably practicable measure to safeguard mineworkers against possible transmission, especially those working in crowded mining conditions. There may also be other means available to minimise the risk of contracting COVID-19 in the workplace, including providing educational resources to mitigate the spread of misinformation surrounding the vaccine and encourage employees to take the vaccine.[15]

Employers are obliged to balance their employees' rights to freedom of bodily integrity against the risk that the COVID-19 virus presents in the workplace and to employees. Additionally, they must reasonably accommodate employees' rights to freedom of conscience, religion and belief as some may feel that the vaccine infringes on their religious or cultural beliefs. The constitutionality of a mandatory vaccination policy is a precarious issue that the courts have not addressed yet, and as such, employers must properly balance the competing rights and interests of all affected parties.

Kabir Chagan

There are currently several avenues through which our law already addresses COVID-19 in the workplace. The Bill of Rights bolsters many legislative rights through the entrenchment of the section 24(1) right to an environment that is not harmful to one's well-being or health.[16] This right applies horizontally to both employers and employees. It is important to note that miners are veiled in their first layer of protection by virtue of their status as employees. From a general labour law standpoint, section 8 of the Occupational Health and Safety Act compels employers to provide and maintain a safe working environment that is also risk free to the health of their employees – within the reasonable parameters.[17]

"Through interpretation of the existing legislation in conjunction with one another, it can be said that authority exists to justify that an employer-mandated vaccine rollout for mineworkers would be legal."

Section 11 of the Mine Health and Safety Act (MHSA) requires employers/owners to have a health and safety system in place that assesses the possible risks and responds accordingly.[18] The system is then adapted according to any new needs that may arise. It further compels the employer to determine what reasonably practicable measures should be implemented to address the risk through consultation with the health and safety committee. This qualification of "reasonably practicable" determines the standard of care that is owed. Presently, there is still little practical guidance provided by South African courts on interpreting what constitutes "reasonably practicable". However, English cases have been drawn on in an effort to give meaning to this term. The courts there have said that the mere existence of certain safety precautions that have been adopted and applied universally across the industry does not necessarily mean that they are "reasonably practicable".[19] Albeit there has to be an evaluation of certain measures in any case. These measures should include how the risk can be eliminated, controlled and minimised. To the extent that the risk prevails, the measures should also entail a personal protective equipment (PPE) provision plan and an accompanying risk-monitoring programme. Clause 8.1 of the Mandatory Code of Good Practice on the Mitigation of COVID-19 Outbreak frames section 11 of the MHSA in the pandemic context.[20] Herein exists an extensive list of considerations that employers ought to have when assessing the risk presented by COVID-19 and developing their codes of practice (COP).

Once again within the labour law realm, the common law also creates safeguards for employers to implement on behalf of employees and for their protection. The common law duty of care for an employee brings with it the right to refuse dangerous work.[21] This duty strengthens section 23(1) of the MHSA, which gives the employee the right to leave any workplace if they can reasonably (objectively) prove that their workplace circumstances pose a serious danger to their health or safety. In *NUM v Driefontein*, it was reiterated by the Industrial Court that where a person (under the supervision of a ganger or a miner) complains that the workplace is dangerous, such supervisor should withdraw all the workers from the area and personally ensure that that the work area is made safe.[22] Mineworkers may rely on both common law or statute. The statutory protection extends to mineworkers in so far as it pertains to their occupation as such. However, the common law duty goes further than section 23. An auxiliary duty also exists for employees to ensure they are not contributing to the dangers or increasing the risks that may occur – failure of which may result in dismissal.[23]

Currently there is no regulation in South Africa that mandates the widescale rollout of the vaccine. The same is true for the mining sector. This position is notwithstanding the trend of private businesses requiring workers to get vaccinated.

A proposed mandatory vaccine rollout for mineworkers would be in line with the measures (and particularly with section 11 of the MHSA) that are in place to prevent transmissions and deaths. Such measures are evidenced, for example, by the various levels of rules mineworkers are subjected to (such as wearing helmets in general and wearing PPE during COVID-19) to give effect to a safe

working environment. However, this also presents various practical hurdles for these underground mineworkers. The conditions in which they work are cramped, humid and often have inadequate ventilation. This is then amplified by the fact these workers are also more prone to having breathing problems. The strenuous work they are required to do naturally makes the wearing of PPE (especially masks) impractical from this angle. Thus, one clearly sees that currently, the most effective way of containing risk posed by COVID-19 is fatally flawed. Concomitantly, it also further justifies the averment that a clinically proven mandatory vaccine would drastically improve the ability of employers in the industry to contain such risk.[24]

Through interpretation of the existing legislation in conjunction with one another, it can be said that authority exists to justify that an employer-mandated vaccine rollout for mineworkers would be legal. This contention is further supported by the fact that a mandatory vaccine is not a new legal phenomenon. In recent years, a vaccine mandate for hepatitis was put forward. Evidently, this shows that the legal infrastructure exists for the COVID-19 vaccine to follow the same route.[25] Mineworkers have also been classed as essential workers, thus requiring even stricter safety measures.

The Consolidated Directions on Occupational Health and Safety Measures in Certain Workplaces[26] issued in terms of the Disaster Management Act[27] requires employers, when creating a vaccination plan, to consider the many rights of the employees and to be cognisant of any applicable collective agreements.[28] Mineworkers (either personally or through trade unions) may well challenge any future implementation of mandatory vaccines in the workplace against the Constitution as a limitation on their entrenched rights. However, a section 36 limitations analysis is likely to find that the limitation would be justifiable. A mandatory rollout would protect all parties both from a health and legal perspective. It is thus contended that, in support of the view taken by Richard Spoor Inc, the rollout of mandatory vaccines should be supported – provided that mineworkers do not have to pay for them, and they have given their informed consent to it. The necessary implications provide significantly more positives than the converse.

Magdalene Riet

Historically in South Africa, mineworkers are considered a vulnerable group, particularly when it comes to respiratory diseases. This fact creates an urgency to have a vaccine roll-out plan that is responsive and functions within the working conditions miners find themselves in. The law plays a vital role in this process, and therefore it is essential to explore the parameters of the law within the roll-out plan.

The South African vaccine roll-out plan followed a phased approach.[29] Phase one consisted of all health sector workers. Phase two composed of essential workers, persons in congregate settings, persons over the age of 60 and persons over the age of 18 with comorbidities. Phase three consisted of other persons over the age of 18. The Department of Health grouped mineworkers under "essential workers" which meant they fell under phase two. However, there were challenges to the roll-out plan like vaccine hoarding, which led to vaccine "shortages" and lack of participation to get vaccinated. In addition, the mining sector had to address the challenge of accommodating and protecting miners with comorbidities. According to the Mineral Council's Guidance on COVID-19 and Vulnerable Populations (The Guidance), vulnerable people include those over the age of 60 and people with underlying medical conditions like chronic lung, kidney and liver disease, immunocompromised individuals, and miners with serious heart conditions. The Guidance instructs that miners with comorbidities should, with express and informed consent, disclose their medical information. Employers are encouraged to offer these miners jobs where they can work from home or with minimal contact. Emphasis is placed on the disclosure of medical conditions to enable employers to monitor and ensure greater vigilance and early treatment and hospitalisation of miners with comorbidities. The Guidance provides that special measures based on a proper risk assessment on a case-by-case basis needed to be taken to protect employees with comorbidities and to mitigate the risk of them contracting COVID-19. In October 2020 it was reported that of the South African miners who died of COVID-19, 60 percent were older than 50 years and 86 percent suffered from one or more comorbidities.[30] As of 17 January 2021, 312 904 COVID-19 tests had been administered in the mining sector, 60 644 individuals tested positive for COVID-19, 98 percent recovered and sadly 740 deaths were recorded. Trade unions like the National Union of Mineworkers are calling for mining companies to "prioritise the health and safety of mineworkers and not the profit margins".[31]

Certain writers argue that the legislature should make the vaccine compulsory for South Africa to fight the spread of COVID-19 effectively.[32] Mandatory vaccination policies within the mining industry would trigger provisions in employment legislation such as the Employment Equity Act,[33] Labour Relations Act,[34] Basic Conditions of Employment Act,[35] Occupational Health and Safety Act[36] and the Mine Health and Safety Act.[37] Mandatory vaccination could lead to many labour disputes that may result from an employee refusing to get vaccinated and then being dismissed for breaching work policies and regulations. The Labour Appeal Court, in *Eskort Limited v Mogotsi*,[38] upheld the dismissal of an employee who failed to comply with COVID-19 work policies. Various institutions who purport to introduce mandatory vaccination policies are being dragged to court by trade unions.[39] NUM firmly opposes mandatory vaccinations against workers. It alleges that COVID-19 and vaccination is being used as a retrenchment tool by some companies and that the rights of workers were not being recognised.[40] It is a slippery slope. Mandatory vaccinations and even mandatory COVID-19 tests within the workplace may fall under the scope of section 7 of the Employment Equity Act. Medical testing in the Act includes any test, question, inquiry or other means designed to ascertain, or which has the effect of enabling the employer to ascertain, whether an employee has any medical condition. Medical testing of an employee is prohibited, unless legislation permits or requires the testing; or it is justifiable in the light of medical facts, employment conditions, social policy, the fair distribution of employee benefits or the inherent requirements of a job.

"If an employer wants to introduce a mandatory vaccination policy, they would need to conduct a comprehensive assessment to determine whether limiting an employee's constitutional right to refuse vaccination is reasonable and justifiable"

The Constitution[41] has certain rights that could potentially deem a policy of compulsory vaccination in the workplace unconstitutional. Section 12(2) states that every person has the right to bodily and psychological integrity, which includes the right to make decisions concerning reproduction, to security in and control over their body, and not to be subjected to medical or scientific experiments without their informed consent. This provision means that mineworkers have the right to make decisions and accept or reject medical intervention and treatment, including administration of the COVID-19 vaccine. Rights may, however, be limited in terms of section 36 of the Constitution if the limitation is reasonable and justifiable in an open and democratic society. The National Health Act[42] in section 5 allows for emergency treatment, and section 7 states that a health service can be administered without consent where it is authorised to do so in terms of law or a court order. Furthermore, section 9 gives conditions under which health services can be provided without consent. The Minister of Employment and Labour published guidelines on 11 June 2021 on mandatory vaccination policies in the workplace.[43] The directive encourages the practice of mutual respect between employer and employee. Public health imperatives, productive business operations and the constitutional rights of employees are highlighted as important considerations to take into account when considering mandatory vaccination policies in the workplace. Section 3(1)*(a)*(ii) of the June 2021 amended OHS directives tells the employer what steps to take, what to take into account and what observations should be made when determining whether the vaccine should be mandatory in the workplace.[44] The amended directives do not make vaccination in the workplace mandatory but leaves it open for the employer to decide. The amended directives provide that an employee may refuse to get vaccinated on constitutional grounds (the right to bodily integrity[45] and freedom of belief and opinion[46]) or medical grounds ("an immediate allergic reaction of any severity to a previous dose or a known (diagnosed) allergy to a component of the COVID-19 vaccines").

The right of the employee to refuse vaccination on the constitutional and medical grounds listed in annexure 3 of the June 2021 amended OHS directives needs to be balanced against the employer's common law duty to provide a safe working environment.[47] The Occupational Health and Safety Act underpins the employer's common law duty to provide a safe environment in sections 8(1) and 8(2)*(b)*. The Act furthermore creates a duty for employers to protect people other than their employees against hazards to health and safety arising from or in connection with the employer's business. If an employer wants to introduce a mandatory vaccination policy, they would need to conduct a comprehensive assessment to determine whether limiting an employee's constitutional right to refuse vaccination is reasonable and justifiable (section 36 of the Constitution). This does not necessarily mean that an employer may dismiss an employee if the limitation is justifiable because the June 2021 amended OHS directives provide that alternative solutions to reasonably accommodate the employee should be considered before resorting to dismissal. The directives create a map for the employer to follow where an employee refuses to get vaccinated. The starting point is to respect the decision of the employee and to allow them to consult with their representatives so that they are well-informed of their rights, obligations and options. Where the employee claims to have an allergy in respect of the vaccine the directives suggest that the employer refer the employee for further medical evaluation. The employer is also encouraged to reasonably accommodate the employee's decision to not get vaccinated where possible. The courts have yet to decide on the issue of mandatory vaccinations. The courts have, however, dealt with cases where they had to mandate

medical health intervention without consent, for example in *Minister of Health of the Province of the Western Cape v Goliath*,[48] and in *Minister of Safety and Security and Another v Gaqa*.[49] In both of these cases the court found that under the circumstances, the interest of the public outweighed the individual's right to bodily integrity. In *Gaqa*, the court approved the surgical removal of a bullet from the leg of a person without their consent. The person was accused of a robbery and the bullet was evidence needed in the trial. The court came to its decision by balancing the rights of the accused and the public, taking into consideration the investigation of serious crimes in South Africa.

The National Health Act also provides that a health service can be provided without consent where the service is authorised by law or a court order because the failure to provide the service to the user will result in serious risk to public health.

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Business Interruption Insurance in Light of COVID-19: Does it Cover Pandemic-related Losses?

Kennedy Chege

Introduction

The COVID-19 pandemic has hitherto led to unprecedented disruptions to our daily lives, business activities and economies around the world. The mining industry has not been spared. Since the World Health Organization (WHO) declared the novel coronavirus (COVID-19) outbreak a global pandemic in March 2020, there have been over 1 000 insurance coverage claims and lawsuits filed by businesses globally.[1] These lawsuits concern the scope of coverage for COVID-related losses, as will be shown below. The insurance industry generally has denied cover for business interruption losses that resulted from COVID-19 and the lockdowns, and refused to indemnify businesses for losses sustained.[2] COVID-19 insurance coverage litigation is likely to be protracted and findings will also likely continue to vary across jurisdictions.

Many property or casualty policies incorporate business interruption insurance clauses.[3] For a long time, there has been a great deal of uncertainty on the question of whether business interruption insurance covers losses to businesses that the pandemic has occasioned.[4] Some decisions relating to the pandemic have ruled in favour of insurance companies (the insurer), who have attempted to deny coverage for COVID-related claims, whereas other decisions have favoured the insured parties (the insured). In South Africa, the landmark judgments of the Western Cape High Court in *Ma-Afrika Hotels (Pty) Ltd and Another v Santam Limited*[5] and the earlier *Café Chameleon CC v Guardrisk Insurance Company Ltd* case[6] are examples of cases that were decided in favour of the insured parties. The *Café Chameleon* judgment was subsequently appealed to the Supreme Court of Appeal, as explained below, which also found in favour of the insured, thereby providing much-needed certainty on the matter.

The above judgments will have ramifications for companies in all economic industries, including the mining industry in South Africa. In 2020, a lot of mining companies were forced to operate at severely constrained levels of 50 percent capacity, particularly when the South African government imposed stringent lockdown measures at alert level 5.[7] The reduced operations caused the majority of them to incur significant losses and experience financial distress, especially the small, medium and micro enterprises (SMMEs). "Factoring", whereby a company sells its accounts receivable (or invoices) at a discount to a third party, in return for cash, has been put forward as a plausible solution for SMMEs to address the issue of limited financing by increasing their cash flow and avoiding debts.[8]

"For a long time, there has been a great deal of uncertainty on the question of whether business interruption insurance covers losses to businesses that the pandemic has occasioned."

Should the pandemic persist, it is likely to lead to many more of these mining companies ceasing operations or applying for business rescue or liquidation resulting from financial distress. Therefore, these judgments provide a lifeline for mining companies. They raise the hopes of mining companies receiving indemnification from insurance companies for business losses resulting from the pandemic, thus enabling them to continue their operations and generate profits.

What Is Business Interruption Insurance?

Business interruption insurance refers to insurance coverage that helps replace lost income (profits) if a business is halted as a result of direct physical loss, damage or destruction to insured property by a covered peril.[9] Covered perils may include the following: fire, theft, natural disasters (for example, storms, earthquakes, etc), and damage caused by riots, vandalism or civil unrest, among others, unless the respective policies specifically exclude these events. Additionally, business interruption policies may reimburse the necessary extra expenses that the insured party may incur; for example, operating expenses caused by the disruptive event, rent expenses incurred when moving to a temporary location, etc.[10] Such policies are imperative for companies, including those in the mining industry, especially since the pandemic continues to cause interruptions to mining operations.

Key Features and Elements of Business Interruption Insurance

There cannot be a business interruption insurance claim without property damage, which is the trigger for indemnification to ensue.[11] The policy protects against actual loss that has been sustained by the insured.[12] This type of policy pays out only if the cause of the business income loss is covered in the underlying property or casualty policy.

Business interruption insurance is not sold as a separate policy. It is either added to a property or casualty policy or included in a comprehensive package policy as an add-on. Therefore, it is part of the underlying property or casualty policy.[13] It could also appear as an added endorsement that may include extensions of coverage.

"Considering the different risks in the industry that could result in loss or damage to property, mining companies operating in South Africa today face a unique set of insurance challenges."

Furthermore, the loss sustained by the insured is subject to the coverage limit, meaning that such a limit restricts the maximum amount that the insurer will pay out towards a claim.[14] Financial losses that exceed the coverage limit are borne by the insured, as it is their responsibility to cover the additional costs.[15]

Business interruption coverage persists until the end of the business interruption period, as stipulated in the policy.[16] Most policies determine the period from the date that the covered peril began until the date that the damaged property is physically restored to the condition that it was before the covered peril occurring.[17] Therefore, insurers are only liable for loss of business income during the period of restoration, i.e. the length of time required to rebuild, repair or replace the damaged or destroyed property.[18]

Moreover, these forms of insurance impose a duty on the insured to mitigate losses. Business owners need to take reasonable steps to repair their property after the covered event to minimise further damage. Some insurers will reimburse some of these repair costs if they do not exceed the loss itself.

The mining industry differs from other industries in terms of the inherent levels of uncertainty of geological conditions, commodity price fluctuations and other operational factors.[19] The complexities of mining project lifecycles require innovative ways of managing risk. Considering the different risks in the industry that could result in loss or damage to property, mining companies operating in South Africa today face a unique set of insurance challenges. The COVID-19 pandemic has exacerbated the situation for mining companies, with many having lodged business interruption insurance claims. It is therefore imperative for mining companies to secure their futures by taking out business interruption insurance policies.

Are COVID-related Business Insurance Claims Covered?

This inquiry is a hugely controversial one and has created uncertainty. Standard business interruption insurance does not reimburse policyholders if their business activities are halted due to a pandemic. Even some all-risk insurance policies have specific exclusions for losses caused by viruses or bacteria.

As aforementioned, physical damage is the trigger for a policy to be paid out. It cannot be said that COVID-19 causes physical damage, thus making it difficult to extend the application of the policy wording. Unless a business interruption policy expressly lists pandemics or contagious illnesses as being covered thereunder, they may not be. Where these policies contain ambiguous language, judicial intervention may be necessary to ascertain whether certain categories of losses will be covered.

However, insurers have attempted to deny coverage even in circumstances where policies expressly cover losses caused by "notifiable diseases".[20] They are of the view that the actual infection may be an insurable event if the policy document covers business interruption in respect of infectious diseases, but not the government-imposed lockdown that resulted from COVID-19. The question whether the losses incurred by the business were as a result of the pandemic or rather the government-imposed lockdown became a key consideration in the *Ma-Afrika Hotels* and *Café Chameleon* cases, discussed below.

The first *Cafè Chameleon* case was filed by a business after its insurers rejected their claim as a result of the losses and damages that were suffered due to business interruption caused by COVID-19. The Western Cape High Court dealt with an identically worded policy to the one in the subsequent *Ma-Afrika Hotels* case below and ruled in favour of the policyholder. The insurer's arguments were also similar to those of the insurers in the *Ma-Afrika Hotels* case below. The court in *Ma-Afrika Hotels* determined that the "notifiable disease" coverage extensions to business interruption insurance policies provide coverage for losses caused by the government-imposed lockdown.

The *Ma-Afrika Hotels* case is discussed first, as presently an appeal is pending.[21] The case arose when Ma-Afrika Hotels (a hotel chain) and Stellenbosch Kitchens (a restaurant) joined forces with Insurance Claims Africa (ICA), a public loss adjustment company, after they were forced to shut down following the government-imposed lockdown in South Africa. Both the hotel chain and the restaurant had purchased business interruption insurance that expressly covered losses "occasioned by the occurrence of a notifiable disease in the form of COVID-19 occurring within a radius of 40 kilometres of the insured premises". They argued that the losses they suffered resulted from the outbreak of a notifiable disease within a specified radius of the insured premises, i.e. there can be no lockdown without the outbreak.

The insurer, Santam, alleged that the loss of revenue was not caused by the outbreak of the disease, but by government action of instituting lockdown; therefore, there was no causal link between the disease and the losses suffered. It further argued that its policies covered only purely local outbreaks of infectious diseases, not a global pandemic, and that it was never the intention of the insurer to cover the lockdown.

The Western Cape High Court explained that "the policy does not state that the infectious disease must be limited to a local outbreak only, or that the local authority response must be exclusively due to such local outbreak only, and no other, or that the policy does not respond where the disease and the response is broad and national". It therefore concluded that "it cannot be said that the nationwide or global events

were not contemplated or insured" by the policies. The court further held that the "notifiable disease" coverage extensions "are exactly what they had insured themselves against" when purchasing the notifiable disease coverage. The court therefore found that Santam is liable to indemnify Ma-Afrika for business interruption losses caused by COVID-19, and generally by the national lockdown and related restrictions imposed by the government in response to the pandemic. This indemnification would be for the full 18-month period of the insurance interruption insurance contract. Despite accepting the court's ruling, Santam has since appealed the court's decision with respect to the indemnity period of 18 months, since Santam insists it is only liable to pay out claims for three months, not up to 18 months, as the High Court ruled previously.

"This pronouncement effectively means that regarding the question of causality, the South African national lockdown in response to the COVID-19 pandemic constituted the proximate cause of the insured's loss, requiring the insurer to pay out the claim."

It is noteworthy that the court referred to the English High Court's ruling in *The Financial Conduct Authority v Arch Insurance (UK) Ltd and Others* (*FCA* test case).[22] This UK decision is another that found in favour of the insured and cited the South African *Café Chameleon* case, both finding that COVID-19 and the government's response to the pandemic are inseparably part of the same insured peril. The *FCA* case also set out the so-called "but-for" test, commonly used in the law of delict and criminal law, as an important determiner for a business interruption claim. To ascertain the financial impact on a person's business, they would ordinarily consider what their profits would have been, but for the peril.

South African Supreme Court of Appeal Decision in *Cafè Chameleon*

On appeal, the Supreme Court of Appeal in *Cafè Chameleon* upheld the ruling of the Western Cape High Court in favour of the insured, Cafè Chameleon.[23] The judgment provided certainty for all parties in insurance claims about the question of whether business interruption insurance policies cover pandemics such as COVID-19. The central question in this appeal was whether the government's imposition of a lockdown in response to multiple outbreaks of a "notifiable disease" (i.e. COVID-19) throughout the country, and predominantly in Cape Town where Café Chameleon operates its business, was covered by the infectious diseases clause. The clause at the heart of the dispute indemnified the restaurant for loss resulting from the interruption of the business due to a notifiable disease occurring within a radius of 50km of the premises. The insurer, Guardrisk, then alleged that the government's national response to the pandemic was therefore not covered.

In dismissing the insurer's argument and finding for Café Chameleon, Justice Cachalia asserted that "the fact is, when the lockdown regulations were promulgated, Cape Town accounted for a large proportion of COVID-19 infections".[24] This pronouncement effectively means that regarding the question of causality, the South African national lockdown in response to the COVID-19 pandemic constituted the proximate cause of the insured's loss, requiring the insurer to pay out the claim. The judge further added that the only sensible interpretation of the clause is that it includes and contemplates harm that is attributable to a government response. In making this finding, the court referred to the reasoning in the UK's *FCA* test case and the Western Cape High Court's judgments in the *Ma-Afrika Hotels* case as well as in *Interfax and Another v Old Mutual*.[25]

This decision will have implications for the South African mining sector as companies embark on the path towards recovery from the adverse effects of the pandemic. According to statistics, South African mining companies lost between 30 percent and 50 percent of their market value in 2020.[26] With the above judgments finding in favour of the insured companies, thus requiring insurance companies to pay out claims resulting from interruptions to business operations, there will likely be more mining companies seeking indemnification for the losses that they have already sustained and those that may be sustained in the future in the event of a drawn-out pandemic in South Africa.

Conclusion

The Supreme Court of Appeal has seemingly settled the debate of whether COVID-related business insurance claims are covered under business interruption insurance policies. The Supreme Court of Appeal's decision acts as precedent for the adjudication of COVID-related business interruption insurance matters in the future. The wording of each policy remains key in determining whether a particular business is covered or not. This decision will potentially be instrumental in the Santam appeal case. Legal certainty could also be achieved through legislative pronouncement to address pandemic-related losses and the scope of business insurance coverage.

"The Supreme Court of Appeal's decision acts as precedent for the adjudication of COVID-related business interruption insurance matters in the future."

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[22] *The Financial Conduct Authority v Arch Insurance (UK) Limited and Others* (Hospitality Insurance Group Action and Another Intervening) 2020 EWHC 2448 (Comm) Opus 2 – Official Court Reporters <https://www.fca.org.uk/publication/corporate/bi-insurance-test-case-transcript-first-case-management-conference-16-june.pdf> (accessed 10-02-2021).

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South Africa's Mining Companies in a Post-COVID-19 World: A Shift Towards Mergers and Acquisitions as a Measure to Alleviate Financial Distress, and Its Implications for Regulators

Kennedy Chege

Introduction

In South Africa, as is the case globally, the COVID-19 pandemic has created a situation where previously healthy businesses have been forced to take drastic action to survive.[1] One of these measures is engaging in corporate mergers and acquisitions (M&As), as economies of scale become increasingly important. The practice is known as distressed M&As.[2] Distressed M&As occur when companies that are experiencing financial distress either transfer their assets to other entities or decide to merge or consolidate their business with other companies to increase synergy and performance, while reducing costs.

Other restructuring measures that companies, such as those in the mining industry, are employing to mitigate the effects of the pandemic, as their cash flows continue to be stretched to the limit, include the following: reducing staff/retrenchment, restructuring debts, and reducing expenses to avoid business rescue or even liquidation.[3] For example, Anglo American, which is one of the world's largest mining companies, in April 2020 was forced to cut costs and drive efficiencies after the South African government-imposed lockdown measures to slow down the spread of the coronavirus.[4] These measures were imposed to alleviate the heavy financial toll that the pandemic had on the company.

The pressures of the pandemic resulted in the South African government ordering the closure of all non-essential services in the country in March 2020.[5] As a consequence, mining production fell by more than 47 percent in April 2020,[6] as there was reduced workforce and border closures while the country was at COVID-19 alert level 5. In total, South African mining companies lost 30 percent to 50 percent of their market value in 2020.[7] Despite this predicament, many mining companies remained resilient. It is noteworthy that in general, the mining industry never completely ceased operations, unlike other industries that were forced to shut down during the initial stages of South Africa's hard lockdown.

Nevertheless, as companies today embark on the path towards recovery from the adverse effects of the pandemic, there will inevitably be a wave of restructuring and corporate M&As.[8] This trend will be evident for those that are unable to survive in their present form and will therefore need to collaborate with others to form stronger entities. Having been a feature throughout 2020, the amalgamation of corporate entities (i.e. M&A activity) in the industry will likely continue to be a major trend that will persist post-COVID-19, according to a September 2021 report by SS&C Intralinks.[9] This report found that distressed asset sales will be the biggest drivers of M&A activity in the mining and energy industries in the coming year. The amalgamation is particularly prevalent among Small, Medium and Micro Enterprises (SMMEs) that may lack the capacity to withstand the economic shocks of the pandemic, as opposed to larger corporations.

Another report published by Baker McKenzie in November 2020 noted that the mining industry across the African continent has been in a state of distress for some time, even pre-COVID-19.[10] The report adds that the effects of the pandemic, as well as the growing momentum towards

decarbonisation and energy transformation, increased the number of companies that are either in distress or battling with liquidity. As a result, these companies are seeking legal advice to restructure their portfolios and debts by carving out infrastructure and other non-essential or underperforming assets.[11]

"Distressed M&As occur when companies that are experiencing financial distress either transfer their assets to other entities or decide to merge or consolidate their business with other companies to increase synergy and performance, while reducing costs."

Several mining companies in South Africa and across the world have reportedly submitted merger filings in recent months, owing to the adverse effects of the pandemic.[12] This situation is indicative of the pressure that companies in the mining sector continue to face in light of the pandemic. According to statistics, M&A deals in South Africa in the first half of 2020 included a variety of industries, with mining, insurance and telecommunications within the top three transactions by deal value.[13] The pandemic has meant that many of these companies face severe financial distress, and restructuring appears to be the only viable recourse available to them, despite the government's efforts to offer relief to businesses in the country. Their reorganisation often involves seeking opportunities to merge with or be taken over by other corporations.

South Africa's Mining Industry is Likely to See an Increase in Mergers

The long-term effects of the pandemic remain subject to speculation. However, it is likely that many mining companies will continue to face financial distress in the foreseeable future, particularly with a protracted pandemic. Larger companies with more resources are better equipped to withstand the adverse effects of the pandemic, as they can spread the risk among their operations, owing to their larger capital buffers. Smaller companies are likely to struggle to survive because of the financial constraints.

Such companies would seek to take advantage of opportunities for M&As to build resilience. On the other hand, opportunistic mining companies, as well as investors, would capitalise on opportunities for mergers as assets become available.[14] Therefore, another major trend could be stronger entities preying on those in need of a lifeline and potentially the proliferation of so-called "killer acquisitions", referring to companies acquiring competing companies for the sole purpose of curtailing their development.[15]

Furthermore, there will continue to be increased concertation in the mining industry in the long-term, whereby distressed companies and those facing financial constraints will seek to merge with other companies, noted panellists at a recent webinar on the future of mining in South Africa by international law firm, Hogan Lovells.[16] They asserted that this consolidation is largely due to the increase in operational costs, the pandemic, and environmental and social expectations. Environmental, Social and Governance (ESG) factors, particularly those relating to climate change, diversity and labour standards, are increasingly playing a great role in influencing investors' decision-making throughout the various stages of M&A transactions in the mining industry.[17]

Apart from the above, the COVID-19 pandemic has also revealed the need for businesses to transform and safeguard their futures. It has opened up opportunities for market consolidation and mining companies looking to make strategic acquisitions to fill gaps in skills, resources, technology and their supply chains that the pandemic may have exposed.[18] An important lesson that the pandemic has taught businesses is the value of building resilient organisations to navigate uncertain futures.

What This Means for Regulators

The key pieces of legislation that contain provisions regulating M&As in South Africa are the Companies Act 71 of 2008 and the concomitant Companies Regulations of 2011.[19] The Financial Markets Act 19 of 2012 is also significant, as it contains various market abuse and insider trading rules that apply in the context of public M&As. Competition/antitrust rules relating to M&As are contained in the Competition Act 89 of 1998 (as amended) (Competition Act), which establishes and mandates the following specialised bodies, each with distinct functions, to implement the merger regime in South Africa: the Competition Commission, the Competition Tribunal, and the Competition Appeal Court. In addition to the above legislation, there is also sector-specific legislation that may be relevant to M&As in particular industries in South Africa.

With an increasing number of M&As on the horizon for mining companies, regulators in South Africa will need to pay close attention to merger control provisions that require mergers beyond certain thresholds/monetary values to be approved by the respective regulators.[20] This situation puts focus on the regulatory frameworks, particularly merger control provisions that are invoked whenever corporate entities merge or collaborate, to avoid abuse of dominance practices when they accumulate market power or collusive behaviour such as cartel conduct and other forms of behaviour that restrict competition in an industry.[21] The question that arises is how the competition regulators will deal with mergers involving distressed companies.

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Merger control is one of the key focus areas for competition law. It is set to become a more prominent theme in South Africa and across the world. The current competition regulatory framework in South Africa makes provision for merger approval if the target of a merger is a "failing firm",[22] which refers to a corporation that has been consistently performing poorly and losing market share to such an extent that it is likely to go out of business. This provision means that in circumstances where a merger would substantially lessen competition, in which case it would ordinarily be rejected, the merger may nevertheless be approved if the firm is a failing firm to salvage the distressed business.

The Competition Act lists this doctrine as one of the factors to be considered when determining whether a merger will likely result in the substantial lessening of competition and is therefore not a self-standing defence for the distressed corporation seeking to merge with another.[23] The application of the failing firm defence needs to be flexible enough to be effective by guarding against circumstances where reliance on the doctrine would result in the approval of a merger that may otherwise have anti-competitive effects. It aims to ensure that only genuinely failing firms are protected. The Competition Act is sufficiently flexible in this regard. Merger assessments are conducted on a case-by-case basis, and the legislation requires that distressed corporations relying on the doctrine must meet each of its criteria,[24] a rather stringent evidentiary burden that should not be lowered even when a pandemic is causing financial distress.

Balancing the Public Interest

When assessing such distressed mergers, competition authorities will have to consider public interest considerations. For example, the fact that M&A transactions may seek to save jobs if the distressed entity survives, could be a key factor in

the approval of the merger in question, as it serves the public interest. This consideration means that competition authorities may approve an otherwise anti-competitive merger on the basis that it can be justified on substantial public interest grounds. Such was the case with a 2007 judgment where the Competition Tribunal's decision prevented a target firm from going into provisional liquidation which would have resulted in approximately 4 200 job losses.[25]

Historically, as evidenced through case law, both the Competition Commission and the Tribunal have emphasised the impact of a merger on employment, which is likely to continue in future merger assessments. The Tribunal, in a previous case, noted that: "South Africa is currently experiencing low economic growth and high levels of unemployment. Where possible, jobs must be saved, particularly in areas where poverty is rife."[26] The public interest element of merger assessment is unique to South Africa's Competition Act, as it is intended to guard against infringing the public interest in the assessment of mergers.

Additionally, regulators will have to balance the failing firm doctrine with other relevant factors, such as efficiency and public interest considerations, before approving a merger. Many distressed companies would likely be able to meet the evidential hurdles due to the prevailing economic circumstances in South Africa, thereby allowing them to continue operations. This situation will contribute to economic growth and development and potentially save jobs.

With more distressed M&As expected, the competition authorities will have to pay close attention to merger control provisions in legislation. Additionally, they would need to consider the public interest when assessing mergers by mining companies. The regulators must get these considerations right without defeating the purpose of legislation by making merger control provisions too lenient for companies.

"The public interest element of merger assessment is unique to South Africa's Competition Act, as it is intended to guard against infringing the public interest in the assessment of mergers."

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More Management, Less Administration: Why a Proper Strategy for Revenue Management in Mining is Key in Zambia's Economic Recovery Plan

Mwaba Mulenga

Introduction

The mining industry's potential to shepherd economic recovery is a story that has long been told by many countries – developing and developed alike. As the primary developer of mineral resources in Zambia, the State plays a multi-dimensional role as a custodian, regulator and fiduciary. Therefore, the State must ensure that these resources are exploited optimally. The resulting financial benefits are commensurate with the proportions of extracted resources.[1]

Zambia finds itself in a unique, but not the least easy, position for economic reform. Several factors could potentially create a conducive environment for macroeconomic stability. Since the coming into power of the United Party for National Development in August 2021, there is a particular strength and confidence infused in the new leadership.[2] This hope can be paired with interactive problem-solving using lessons from other resource-rich countries.

There is a need to move beyond the much-debated aspects of the Zambian mining industry's taxation and examine choices influencing how this revenue is managed for macro-economic growth. Exploring the parameters that strengthen or inhibit Zambia's unique position highlights obstacles that threaten proper revenue management and possible measures to align general principles of effective revenue management to Zambia's specific context.

Copper Production as the 'Broken Thread'

The success of present aspirations casting copper production as a beacon of economic recovery is underpinned by the general attitude towards taxation of the mining sector and rising copper prices.[3] Metrics measuring the performance of copper over the years show an increase in the amount of revenue collected by the Zambian government from copper production.[4] They also show that mineral rent as a percentage of GDP constitutes approximately 14.62 percent. Production value is approximately 20.64 percent of GDP, placing Zambia fifth in the rank of mining-dependent countries.[5]

Other benefits have been identified in value addition and revenue generation.[6] However, statistics show that non-tax benefits such as employment creation are typically confined to host communities,[7] and the shared benefit likely to benefit all Zambians realistically is government revenue generated from taxes and royalties. To maximise equitable economic growth for present and future generations, legislative and policy intervention to address critical issues of revenue management must be implemented.

"Overall, a specific legal framework must be developed to manage the revenue generated from copper production and sales."

Principles of Revenue Management in the Zambian Context

The International Working Group of Sovereign Wealth Funds developed a framework to guide countries on managing their sovereign wealth. This is a soft-law instrument and is not binding on countries. The framework (known as the "*Santiago Principles*") recommends that countries implement a "special-purpose investment fund" to manage sovereign wealth specifically. It further itemises the various principles to be used in achieving this purpose. Zambia has a general finance management framework that references a "Sovereign Wealth Fund" as a strategic fund for investment purposes.[8]

First, the *Santiago Principles* recommend that the law delineates a clear framework for managing revenue in a Sovereign Wealth Fund ("SWF").[9] For example, the law in Zambia presently allows the Minister of Finance to formulate regulations for the establishment, management and control of the SWF.[10] However, there are no specific rules for collecting and managing mineral resource revenue within the context of the SWF, as the funds are pooled with the country's collective national revenue and can be spent on any project or investment, or even misused. In contrast, countries such as Ghana have formal legislation to guide the use and investment of mineral resources revenue. The Petroleum Revenue Management Act of Ghana, for instance, establishes a framework for "the management of petroleum revenue in a responsible, transparent, accountable and sustainable manner for the benefit of the citizens of Ghana".[11]

The second principle drawn from the *Santiago Principles* is creating a system requiring the State to account for revenue specifically received from mineral resources separately. In August 2021, the Zambia Revenue Authority surprisingly declared that it had recorded a surplus of mineral revenue collection exceeding its annual target for the year and decided to refund the surplus to certain mining companies.[12] This situation is atypical of a country lacking an accountability system that can oversee the strategic management and investment of mineral resource revenue.[13] Presently, the Minister of Finance is required to develop a regulatory framework for managing the SWF.[14] In contrast, Ghana has an established system that legally mandates the Ghanaian Minister of Finance to act as a "manager" and make sound decisions regarding the management of the fund, including long-term investment decisions. The manager is judged by the "prudent investor standard" – this entails an obligation to utilise petroleum revenue prudently and generate more income to support the country's macroeconomic objectives.[15]

The third principle relates to the choice of investment strategy. Natural resources revenue ought to be utilised to generate more assets to strengthen the overall fiscus of a

country.[16] While Zambia is lagging in this area, Nigeria and Norway are illustrations of governments that have implemented a SWF through which revenue from resources is simultaneously saved and invested in approved projects for the SWF. The choice of these investments should also be aligned with current and projected levels of development and the average levels of income in the country. For instance, higher income countries can invest more in social insurance, whilst low-income countries would understandably invest more in public infrastructure and national security.[17] The law in Zambia does not establish specific regulatory rules to limit the form of investment for revenue generated from copper production and sales, and this revenue can be invested in any way.

"Zambia finds itself in a unique, but not in the least easy, position for reform."

Various international initiatives emphasise that transparency is a prerequisite for good revenue management.[18] Principle two and principle four of the Santiago Principles also urge that States managing their resource funds disclose all relevant financial information to the public and encourage public education and awareness.[19] Zambia's laws state that a financial report for a particular financial year must be prepared to account for all funds in the consolidated account.[20] In Ghana, the Minister of Finance is obligated to make specific reports and disclosing processes undertaken through the various stages of collection to final disbursement and eventual use of petroleum revenue. The annual report is accompanied by an audited financial statement highlighting all transactional activity on the revenue fund.[21] Zambia does not have a defined policy to strengthen accountability and emphasise transparency in the management of mineral resource revenue. Currently, the government has adopted the creation of a "good governance environment" as one of the core macroeconomic principles in the 2022 budget.[22] These principles must be developed to implement a specific accountability system for the use of mineral resources revenue in the SWF.

Transparency itself is underpinned by strong institutional support, which fosters accountability. Accountability means the duty to give account for its actions to the Zambian people.[23] Therefore, there is a need to define parameters, remedial measures and objectives of independent offices such as the Public Protector and the National Assembly to oversee the management of mineral resources revenue.

Concluding Remarks

Increased copper production will not automatically translate to macroeconomic growth and equitable benefits for present and future generations in Zambia. Having focused mainly on revenue administration over the years, there is a need to implement a sustainable policy for proper revenue management. Overall, a specific legal framework must be developed to manage the revenue generated from copper production and sales. The law should also define a portfolio manager who will objectively guide good investment decisions according to good governance standards and can be held to account through a practical oversight mechanism. Finally, it is recommended that the Zambian government adopts a multi-faceted strategy to reduce public expenditure and prioritise investment in projects that promote sustainable growth.

"[Deciding to refund the surplus of mineral revenue collected] ... is atypical of a country lacking an accountability system."

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The Sick Economy: Mining as the Key for Economic Recovery in South Africa

Patrick Lukusa Kadima

In March 2020, as the South African government imposed a nationwide "hard lock-down" in response to the COVID-19 pandemic (the pandemic), the nation's economy was already limping. According to Statistics South Africa (Stats SA), the South African economy had slipped into a technical recession in March 2020 due to economic contraction.[1] Though South Africa's Gross Domestic Product (GDP) is the third biggest in Africa, standing at 329 billion dollars,[2] the South African economy has not been performing at its best recently. The pandemic has only added to the misery. Many policy practitioners, scholars and analysts question how the sluggish economy can be kick-started for recovery. The mining industry is key to revitalising the South African economy. More specifically, this piece asserts that the mining sector's challenges need to be addressed to enhance the contribution of mining to the economy.

Mining is Key to Resuscitate a Limping Economy

The mining sector has been the backbone of the South African economy for many years. As noted above, mining contributes immensely to the country's GDP and is said to directly employ close to half a million people.[3]

In the early days of the nationwide lock-down, the government permitted essential services to continue operating, including mining.[4] The permission for mining companies to continue carrying out their operations in the face of restrictions is an important indication of the industry's vital contribution to the economy. It is a well-known fact that COVID-19 has negatively affected the economy of many nations, and South Africa is no different. The impact of the pandemic on the economy is that inequality will deepen, unemployment will increase, and numerous households will be thrust under the poverty line. South Africa's National Development Plan (NDP) outlines a triple challenge of high unemployment, high inequality and high poverty.[5] The NDP emphasises that the economy needs to grow rapidly to eliminate those challenges.[6] The current debate on the economy ranges from how the South African economy can be revived to ensuring that economic growth translates to economic development. Various solutions have been suggested by scholars and analysts on how to kick-start the economy[7], but this piece puts emphasis on the mining sector as a major role-player for economic recovery.

Stats SA estimates that in the 2019 financial year, the mining industry contributed approximately 7 percent of the total GDP compared to 6.4 percent in 2020.[8] Research also shows that in the 2019 and 2020 financial years, the number of jobs created directly or indirectly was estimated to be 1 512 890 and 1 593 979 respectively.[9] Finally, government revenue is said to have been R165.7 billion in 2019 and R173.7 billion in 2020 as a result of direct and indirect taxes collected by the taxman.[10] One should, therefore, not underestimate the immense contribution mining has added to the economy and the fiscus of the country.

The mining industry is extraordinaire as it can be referred to as a value chain that includes several activities associated with extracting natural resources and delivering these natural resources as a finished product to their respective consumers. This value chain reflects the importance of the mining industry in creating jobs and accelerating economic growth in the country. For example, significant investments in the mining sector can have a positive ripple effect on the value chain, such as creating jobs. On the other hand, a lack of investments in the mining sector can have a negative effect on the value chain and economy.

"The permission for mining companies to continue carrying out their operations in the face of restrictions is an important indication of the industry's vital contribution to the economy."

Therefore, despite the immense contribution of the mining sector towards the economy, challenges persist. Such challenges, as explained below, are exacerbated by the pandemic and need to be resolved to reap maximum benefits from the mining sector, including its contribution to the economy.

Infrastructure and Operational Challenges

Infrastructure challenges are increasing and are putting a burden on the mining sector. One such challenge is the electricity cost and constant load shedding by State-owned entity Eskom. In the past, Eskom told mining companies such as Harmony to reduce their power consumption; this affected the production levels of the mine.[11] Also, in 2019, it was recorded that Eskom had requested Petra Diamonds to reduce its electricity load to "essential load level".[12] This can have dire consequences for the mining value chain, especially if load shedding is implemented at levels 3 and 4. A solution is South Africa's embedded generation changes that will boost energy security. Embedded generation is defined as "the production of electricity from smaller-scale power stations and usually defined as projects that are planned for their own use".[13] The embedded generation changes will also attract investment in the sector because investors will be assured of energy security. An embedded energy sector will play a significant role in the economic recovery of South Africa.

Technology

South Africa's mining sector lags in technology compared to countries such as Australia. However, one has to recognise that the mining industry, in general, is very slow in adopting technologies. Research has shown that South African mines have begun investing in digitalisation, but this has not yielded desirable results[14] due, amongst other reasons, to mines missing crucial steps in their digitalisation journey. One missed step is poor investment in key foundation technologies such as advanced analytics.[15] As a result, the mining sector needs to revisit its technological goals and make it a priority to not miss on the little gains they have made on technology.

Policy and Legislation

Mining Policy and legislative reforms are urgently needed for the mining industry to operate efficiently and contribute to economic growth. For example, certain sections of South Africa's Mineral and Petroleum Resources Development Act are vague and create uncertainty. For investors to find South Africa's mining sector attractive, there is a need for legislative certainty. The mining industry has developed over the years. With such development, one expects that there will be up-to-date policy and legislation changes to accommodate the developments. But this has not been the case. One such example is the tax regime for mines. According to the Davis Tax Committee (DTC), certain areas of tax design require reform.[16] The need for a fair mining tax regime in South Africa should not be underplayed. The DTC also highlighted numerous legislative inconsistencies and technical defects in the law that need to be addressed.[17] There must be a harmonisation of all legislation dealing with mining as this will offer regulatory efficiency to investors.

"significant investments in the mining sector can have a positive ripple effect on the value chain, such as creating jobs"

Conclusion

Despite the above challenges, the mining sector remains the much-needed solution for the sick South African economy as it has the potential to drive economic growth. In addition, some of the country's major problems, such as the "triple challenges" (i.e. high level of poverty, inequality and unemployment) discussed above, can be reduced significantly if mines operate fully and at optimal levels.

"certain sections of South Africa's Mineral and Petroleum Resources Development Act are vague and create uncertainty"

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A Brief Note on Public and Private Response to COVID-19 in the South African Mining Sector: The Reluctant Stewards of Sustainable Mineworker Livelihoods

Aysha Lotter

Introduction

In 2020, it took a court order to ensure mineworkers' safety during the COVID-19 pandemic in South Africa.[1] The public, the government, specifically the Department of Minerals Resources and Energy, and the private sector – the key stakeholders of well-being in the mines – ought to be stewards during crises. They are the key responsible players with the power to build resilience into the livelihoods of their workforce. However, the mining industry, as a sustainable source of livelihood during shocks and crises, appears to require judicial intervention to do the right thing for their workers.[2]

Dubbed South Africa's "sunrise industry", mining is integral to the economy and livelihoods.[3] For every job lost in the mining industry, up to seven dependents are impacted.[4] As an industry confronted with HIV and AIDS, tuberculosis, and silicosis, an inbuilt resilience to a pandemic such as COVID-19 could have been expected.[5] However, COVID-19 is a unique virus that the sector has never seen before.[6] Prevention, mitigation and support required the mining industry to go beyond the standard call-of-duty of an employer, and the government needed to provide guidance. Beyond the public and private players playing a key role, they should look at strengthening local resilience for future shocks.

Mineworkers' Vulnerabilities During the Pandemic

COVID-19 took a terrible grip on South Africa and the entire world.[7] Its effects permeated and continue to impact the functioning of every sector, community and household. Negative impacts tend to pool in specific sectors, impacting communities vulnerable to shocks.[8] Mineworkers in South Africa, and many parts of the world, represent an incredibly vulnerable segment of society due to the nature of their work. Mineworkers are often migrant labourers living far from their families in rental homes.[9] Mineworkers are predominately from historically disadvantaged groups, coming from underprivileged circumstances.[10] It is important to see the actions of various stakeholders involved and the nature of support available to mineworkers amidst the COVID-19 pandemic.

Mineworkers in South Africa work in the most excruciating environment, doing work that frequently leads to injuries, disease and fatalities. People are often crammed into public transport, travelling far distances, and entering spaces with poor ventilation. Any ill-ventilated or crowded space is a cause for concern during the COVID pandemic.[11] On top of the work, the housing set-up for mineworkers is often cramped, coupled with poor sanitation and little privacy.

In neighbouring countries, mining companies and States cannot address the problems presented by the pandemic, partly due to the lack of grassroots-level solutions and implementation strategies.[12] For example, the Zimbabwe Diamond and Allied Minerals Workers Union (ZDAMWU) appealed to the government to pay attention to the vulnerability of mineworkers. The two diamond mines, Anjin and Zimbabwe Consolidated Diamond Company (ZCDC), operating in the Marange Diamond fields, run operations with overloaded buses, poor living conditions, and discrimination

concerns between Zimbabwean workers and their Chinese counterparts.[13] Local community-level organisations, such as ZDAMWU, played an important role in highlighting problems exacerbated by the pandemic.

Responses by the South African Government and Mining Companies

Most mines were significantly scaled down in 2020. The South African government instituted a tiered response to curb the spread of COVID-19 with five alert levels.[14] The levels indicated the severity of prohibitions, with level five being the highest alert level.[15] Express mention of the mining sector operations at level four permitted the operation of opencast mines at 100 percent capacity, and other forms of mining were permitted to operate at 50 percent capacity. All mining activities were allowed to operate at 100 percent at level two.

"COVID-19 took a terrible grip on South Africa and the entire world."

The Minister of Mineral Resources and Energy commented on the industry's response to the lockdown, affirming their commitment to upholding workers' health and safety. The Minister proposed various measures for implementation, most of which have been incorporated into company practice. These measures include scaling labour-intensive operations down significantly and restricting travelling. The measures also include continuous mining operations and the delivery of services to communities, such as water pumping, ventilation and security infrastructure.[16]

The mining industry currently employs 450 000 people, with 44 200 employed in the coal industry alone.[17] It is unclear how these measures support the 400 000+ workers sent home by industry to informal settlements. The measures stop workers from being in a densely crowded *work* environment. The measures limit the risks of workers getting ill *on the job* and lessen the mine's potential liability.

"It is important to see the actions of various stakeholders involved and the nature of support available to mineworkers amidst the COVID-19 pandemic"

The approach of the Minerals Council of South Africa focused on the economic well-being of the mines and less on mineworkers' health and safety. Roger Baxter, the CEO of the Minerals Council, called for imaginative solutions to address the current issues the industry is facing. The solutions are based on "ensuring mines have sufficient staff and capital to make sure mines are adequately cared for".[18] A focus on "mines" being adequately cared for as opposed to the safety and well-being of mineworkers is an unfortunate framing.

As of September 2021, 200 000+ mineworkers had received COVID-19 jabs due to government and industry cooperation.[19] Whether the core drive behind the initiative was to secure sufficient staff or for the health and well-being of the workers is a point of contention. However, despite the result being the same, the main impetus to act is important to consider when looking towards sustainable interventions.[20]

Gaps in These Responses

The government and industry should recognise the pandemic as an opportunity to learn, respond and change, considering other crises to come. The approaches of influential stakeholders (government and companies) are often 'top-down' in nature.[21] They are disconnected from the context, with little engagement with surrounding organisations and support groups at the grassroots level. The main gap in the response to the pandemic appears to be a lack of integration and actionable measures between key stakeholders, particularly with local communities.[22] A collection of agencies supported the Global Action Plan for Healthy Lives and Well-being for All in a letter calling for integration to address the inequalities further entrenched by the impacts of COVID-19.[23]

Integration measures would assist the shortcomings of both government and industry, allowing public and private to work together to address gaps.[24] However, further acknowledging existing community structures and reinforcing grassroots-level interventions is a more sustainable intervention to respond to contextual needs. For example, in some areas where artisanal small-scale mining activities are possible, supportive structures could assist the kickstarting of the local economy.[25] Shocks often disconnect local markets and communities from global trade.[26] Greater socio-economic stability is encouraged by reinforcing local markets and encouraging local economic diversity.[27]

The Way Forward

Companies are faced with the public responsibility to ensure that provisions are made for mineworkers. However, little integrated governance at the grassroots level is reported. The company approaches would include self-imposed shutdowns and care for their workers; however, more could be done through collaboration.

The national government and industry must work with municipalities and community organisations. An example of an opportunity to address the lack of resilience in the sector would be improving workers' housing and living conditions and recognising mental health impacts.[28] This, alongside continued monitoring and evaluation of the Codes of Practice as ordered by the South African Labour Court, would help prepare the sector for future shocks.[29]

"The national government and industry must work with municipalities and community organisations."

Mining companies can learn from other exemplary initiatives from some companies aimed at improving the well-being of mineworkers during the pandemic. For instance, the mining company Red Dog Mines provided mineworkers with hotel accommodation for two weeks to assist with quarantine before returning to their communities. The company also provided its employees with an allowance for daily expenses.[30] In Australia, the mining company Broken Hill Proprietary Company dedicated a $50 million fund to assist health services in communities around the company's mines.[31] In South Africa, Sibanye-Stillwater has provided more precise measures to assist mineworkers with health

practices whilst at work but has not considered dedicated funds and self-isolation accommodations for their workers.[32]

As we move forward, civil organisations will become more crucial as a cornerstone of resilience. COVID-19 is a shock to the livelihoods of all, but those at the forefront of disaster are those most vulnerable. Public and private organisations have struggled to govern a partnership with the aim of societal good. As we venture into a post-COVID world, grassroots integration and resilient networks with well-being at the helm will be the stewards of sustainable livelihoods.

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The Impact of COVID-19 on Artisanal and Small-scale Miners: The Case for Formalising Their Activities in Ghana

Chris Adomako-Kwakye

Introduction

COVID-19 changed the global economy.[1] What started as a medical issue assumed an economic dimension with devastating consequences stretching across the globe, and countries took measures to reduce the deadly effect of the pandemic.[2] Being part of the global economy, Ghana experienced difficulties in the artisanal and small-scale mining sector.

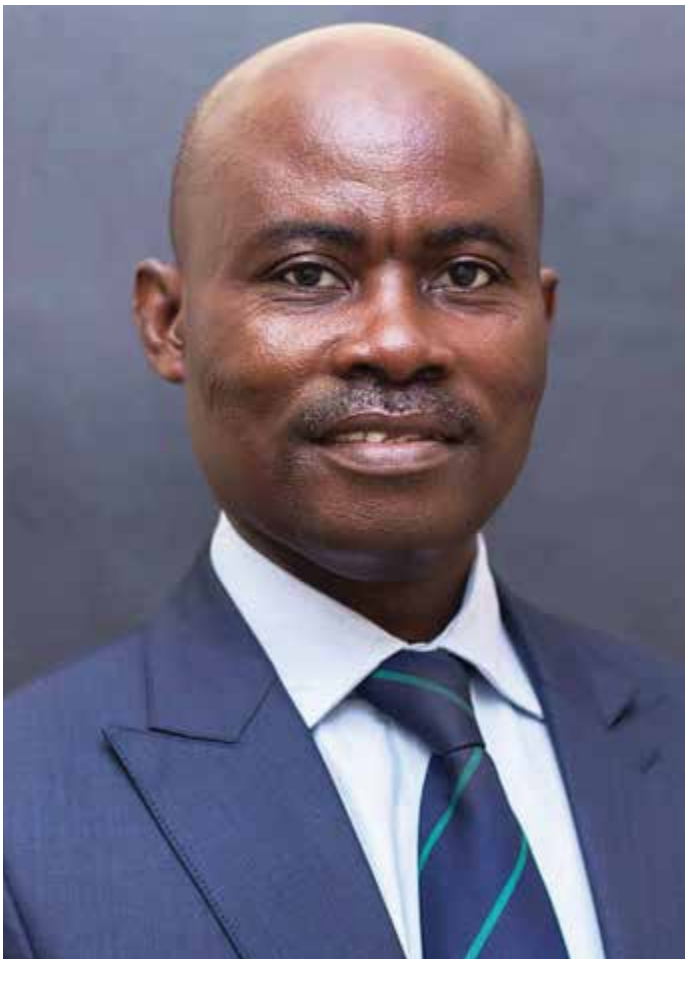
Artisanal and small-scale mining (ASM) has experienced explosive growth due to the rising value of mineral prices and the increasing difficulty of earning a living from agriculture and other rural activities.[3] An estimated 40.5 million people were directly engaged in ASM in 2017, up from 30 million in 2014, 13 million in 1999 and 6 million in 1993.[4] For some, ASM symbolises and is pursued as a route out of poverty and as a resort to complement insufficient income, especially in communities where alternative employment is hard to come by.[5] Despite its importance, the sector has many varied challenges across operating areas. The majority of those who work directly and indirectly in artisanal mining do so informally, and they are amongst the poorest in the world.[6] Informality refers to workers whose activities remain within their circles with no government or public support.[7]

In Ghana, the operations of small-scale miners and 'galamsey' operators are not distinguishable because about 85 percent of small-scale miners do not register for permits due to the cumbersome process involved.[8] The word "galamsey", which means "gather and sell", has become the phrase used for both operators, and the State has allowed both to co-exist.

The effect of COVID-19 illness was disastrous for all sectors, but this piece looks at its impact on ASM activities. The difficulties faced in the mining sector induced artisanal and small-scale mining growth with devastating effects on the environment while providing the needed income to countries and individuals.[9] This piece therefore discusses the need to balance the negative effect of ASM activities on agriculture, the environment and the health and safety of poorer communities globally.[10] In Ghana, a policy that recognises these dynamics and their importance for poverty alleviation seems not to exist.

Background

Sustainable Development Goal 8 is about "decent work and economic growth" to promote inclusive and sustainable economic growth, employment and decent work for all.[11] Sustained and inclusive economic growth can drive progress, create decent jobs for all and improve living standards. This SDG envisages that ASM, like other workers, would engage in decent work with the State's help due to the sector's effect on the economy. COVID-19 hit ASM with limited mobility due to lockdowns, slow markets, low mineral prices and the rising cost of living, worsening inequalities in mining communities.[12]



"Artisanal and small-scale mining (ASM) has experienced explosive growth due to the rising value of mineral prices and the increasing difficulty of earning a living from agriculture and other rural activities."

With these challenges, the ASM sector in Ghana has been described as "turbulent".[13] ASM in Ghana has often been referred to as 'galamsey', meaning gather and sell. The name relates to their everyday operations, which targets alluvial, hard rock deposits, dredging and surface mining, and sometimes entering abandoned industrial mines for mining operations.[14] Workers in the ASM sector work in teams for long hours due to their casual nature. They have financiers, and the ore extracted get shared with the workers, sponsors and local landowners. The system has a great deal of uncertainty as it is possible for ASM workers to end the day without any ore.

Operating in the ASM Sector During COVID-19

Despite ASM's socio-economic contribution, the sector is not considered during policy-making and regulation.[15] Thus, ASM operates in Ghana either individually or in groups without licensing. Most ASM actors work illegally without principles guiding their activities to this extent. In addition, most ASM workers in Ghana operate in the forest at night.

The partial lockdown imposed on Accra, Kumasi, Tema and Kasoa on 29 March 2020 was lifted with some restrictions on 20 April 2020.[16] Thus, the partial lockdown did not affect ASM's activities regarding production – though limited. However, disruptions existed in the ASM sector despite output in the mining sector. Financiers were reluctant to finance ASM activities due to the slow market for their products.[17] The ability of ASM operators to personally apply for loans for their activities was hampered due to the closure of financial institutions in Accra and Kumasi.[18]

Input mobilisation for ASM was thus not forthcoming. The government of Ghana, in April 2020, granted a 2 percent reduction of interest rates by banks, but ASM failed to take advantage of the reduction because they had not paid the earlier loans they took.[19] The introduction of the Coronavirus Alleviation Programme (CAP) by the Government of Ghana

to offer a Credit Guarantee Scheme to small and medium enterprises (SMEs), where ASM falls, did not benefit them since they were not aware of the existence of the programme.[20]

"the sector had barely recovered when the government introduced the COVID restrictions and partial lockdown"

Another effect on the operations of ASM was the market and prices of its products. The contraction in demand for metals and minerals for industrial production has resulted in falling prices globally despite increased demand.[21] In 2017, the government banned all mining activities.[22] The ban was lifted in the latter part of 2019,[23] and the sector had barely recovered when the government introduced the COVID restrictions and partial lockdown. The closure of borders (air, sea and land) affected profitability; buyers could not enter and buy the gold. Some businessmen took advantage and paid very little for the gold produced because ASM operators immediately sold their gold due to a lack of income, unlike brokers and dealers who could buy and store.[24]

The other area affected is the level of income and sustainability of livelihood. Some ASM operators rely on their gold for their upkeep because they do not have any other form of income. Reduced productivity and travel restrictions adversely affected ASM and reduced their livelihoods, thereby increasing poverty levels in ASM communities.[25] In Ghana, the mining families in rural communities where mining occurs further suffered because of the closure of government primary schools, and pupils could not benefit from the Ghana School Feeding Programme (GSFP) from March 2020 to January 2021.[26] This took a toll on families involved in ASM since they did not have other sources of income to take care of additional expenses.[27]

"Reduced productivity and travel restrictions adversely affected ASM and reduced their livelihoods, thereby increasing poverty levels in ASM communities."

The health conditions under which ASM operates are also worsening. Most of them work in dug pits, river bodies and forest cover without regard for social distancing.[28] The continued operation under these circumstances exacerbates ASM operators' health and safety situation. Moreover, the management of the coronavirus pandemic showed that the State has failed to address the numerous challenges ASM operators face despite ASM providing employment and income.

The Case for Regularisation

The above rendition shows ASM's plight as vulnerable and requires urgent attention to the extent that their activities help them earn money for themselves and their families. As a result of the lack of savings by ASM operators,[29] external support is necessary to cushion their plight, especially during pandemics.

Therefore, legislation providing for ASM's registration is necessary to regularise their business. As discussed above, banks would be prepared to deal with an organised group that is well structured rather than dealing with individuals. The formalisation of their activities would further allow them to benefit from government interventions as was introduced for SMEs during the pandemic. As a co-operative, ASM would be formidable and less likely to be exploited by brokers and dealers who determine prices for the products on offer and benefit from incentives that the State rolls out for SMEs.[30] Since ASM operators will register as co-operatives, their activities can be regulated by the authorities to address the effect of ASM on the environment.

"legislation providing for ASM's registration is necessary to regularise their business"

Due to operations in the sector, scholars have argued for improved health, safety and well-being in the ASM sectors to sustain their productivity.[31] Miners in the ASM sector work under deplorable conditions with their attendant health conditions, and the situation is not different in Ghana. Most ASM sites in Ghana show wanton disregard for the health and safety of those working therein, and this is an issue that demands immediate attention. Thus, the regularisation of the activities tends to address or reduce the challenges discussed in this paper since their actions would be supervised.

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The Impact of COVID-19 on Artisanal and Small-scale Miners

Rebecca Lee Pein

Introduction

Mining is the economic bedrock in many resource-rich countries. Both developed and developing nations benefit from its meaningful role in poverty reduction, inclusive growth and social development.[1] Unfortunately, like many other economic sectors, the mining industry has been victim to the harsh consequences of the COVID-19 pandemic, which came to the forefront at the beginning of 2020.[2] The second quarter of 2020 saw a sharp rise in infections and fatality cases reported in many Sub-Saharan African countries. Although COVID-19 is a public health pandemic, it has unleashed multiple socio-economic shocks. It has grown into an unprecedented social and economic global crisis.[3]

Most countries across the globe have responded to COVID-19 by implementing various regulations and lockdown measures.[4] These lockdown measures have disrupted global supply chains as many factories closed abruptly. In most countries, there was a temporary suspension of air, maritime and land transportation. On the demand side, restrictions on the movements of people and the closure of non-essential economic activities have significantly cut down on consumption.[5]

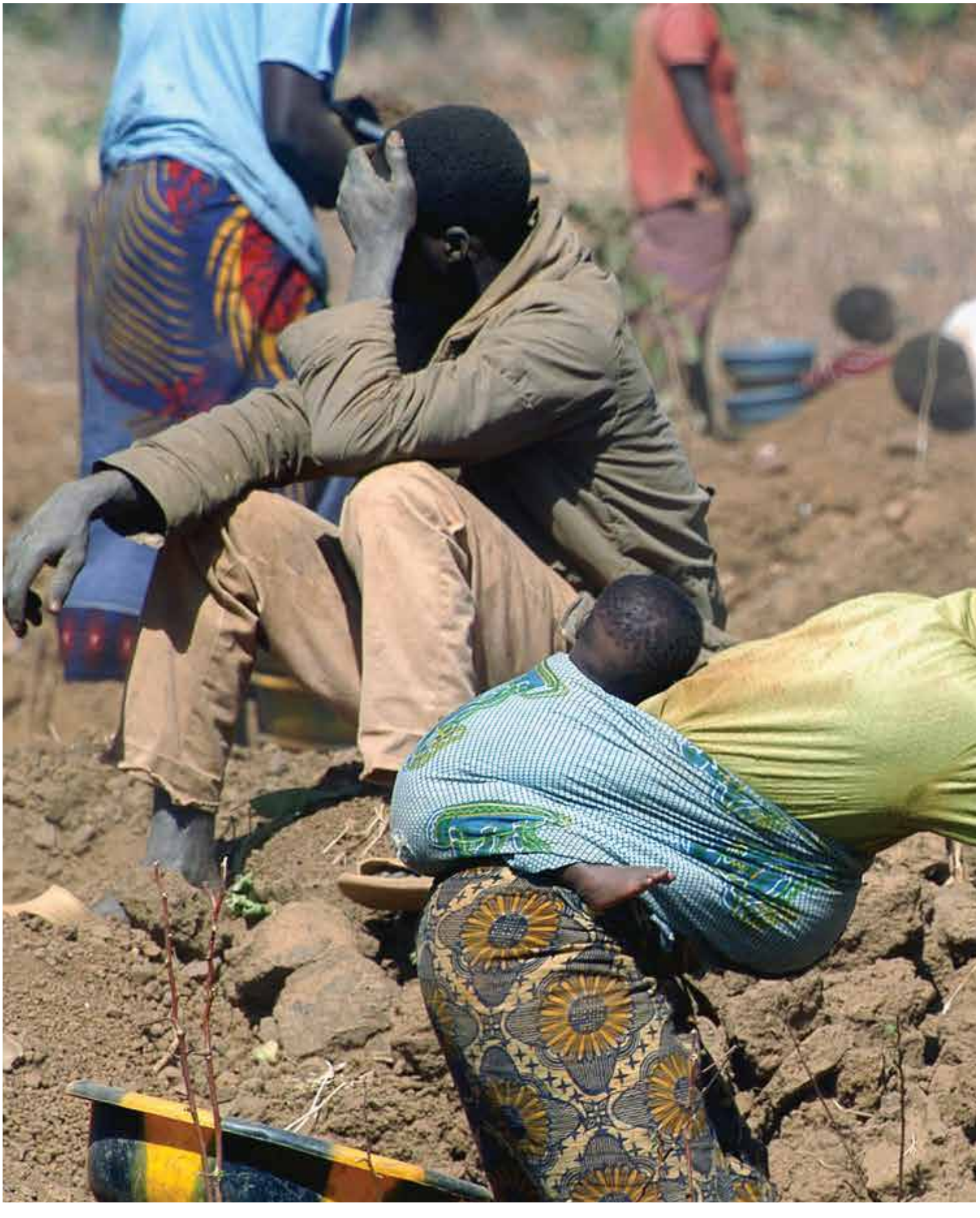
In many resource-rich countries, governments had to go as far as to halt the extraction of raw materials and temporarily lay off mineworkers due to mining operations scaling down as national lockdown restrictions take effect.[6] These measures resulted in massive capital outflows from emerging markets as investors' confidence tumbled and exports and revenues declined, creating a persistent economic storm.[7]

Impact of COVID-19 on the ASM Sector

Economic crises, such as COVID-19, affect vulnerable populations and those working in the informal sector the most. Those affected include workers who rely on daily wages to cover their basic needs and have little to no savings to fall back on during disruptions.

The 45 million people directly working in the Artisanal and Small-scale Mining (ASM) sector across the globe are a particularly vulnerable group.[8] They experience poor health care, precarious working conditions, high incidence of respiratory diseases, and exposure in an environment of little government oversight.[9]

"In countries where ASM activities are considered legal, there has been a backlog of the issuance of ASM permits due to the government departments being closed for extended periods during COVID-19."



In South Africa, there are about 30 000 artisanal miners, known as "Zama Zamas".[10] The Zama Zamas are especially vulnerable because South Africa's mining legislation, the Mining and Petroleum Resource Development Act (MPRDA),[11] only caters for small-scale mining and does not explicitly recognise artisanal mining as legal under small-scale mining operations. Therefore, artisanal miners operate in a space that does not have regulations that specifically cater to their activities, thus making their activities illegal.[12] This situation is unlike other countries, such as the Democratic Republic of Congo (DRC), where the country's Mining Code regulates artisanal mining specifically and stipulates that no mining activity can occur without the requisite authorisation.[13] Nevertheless, many of the DRC's artisanal miners continue to operate without the requisite legal authorisation and thus operate illegally.[14]

"The 45 million people directly working in the Artisanal and Small-scale Mining (ASM) sector across the globe are a particularly vulnerable group."

The Zama Zamas are aware of the dangers of being confined to tight spaces that have poor ventilation with other miners during the COVID pandemic. However, many of these miners have had little choice but to carry on mining illegally as a way to survive.[15] Furthermore, many artisanal mining communities are located in remote areas with limited access to health care services.[16] Whilst the remoteness of some artisanal mining communities might delay initial exposure to the virus, most communities are connected to urban centres and other areas through migrant workers, goods and services supply chains, and mineral trade. Therefore, the spread of the virus in even the most remote artisanal mining communities was inevitable.[17]

The remoteness of some of the artisanal mining communities diminished the possibility of early COVID-19 screening, which requires laboratory capacity and a sufficient workforce with adequate disease knowledge.[18] The isolation of these communities also limited access to COVID-19 information, impacted the ability to isolate affected populations, and diminished the possibility of treatment of severe cases of COVID-19 that require hospitalisation and respiratory support.[19] Many of these artisanal mining workers were unable to follow the recommended preventive measures due to infrastructural barriers such as a lack of water supply, hand sanitizers, soaps, disinfectants and tissue papers. All these factors have contributed to the virus's rapid spread in many of the artisanal mining areas.[20]

Although the artisanal mining workforce tends to consist of healthy younger workers, underlying conditions related to occupational health risks – such as tuberculosis, silicosis, HIV/AIDS, hypertension, diabetes and mercury-induced organ damage – have proven to increase the severity of the virus.[21] Artisanal mining is also a poverty-driven activity. Many artisanal mining communities suffer from livelihood-related risk factors such as malnutrition, communicable diseases, lack of hygiene and even Ebola in some regions of the continent – all of which further increase the severity of COVID-19.[22]

Many artisanal miners are immigrants who are working illegally in a neighbouring country. When countries started to close their borders at the height of the COVID-19 pandemic, many illegal miners continued to gain entry illegally into neighbouring States. This situation not only spread the risk of COVID-19 even further, but heightened criminal activities, such as the smuggling of minerals.[23]

The outbreak of COVID-19 in the ASM sector has also affected the productivity of mine sites and therefore miner and community income. Since the start of COVID-19, productivity – and hence income – has significantly dropped due to increasing logistical complications with supply chains, labour disruptions and government-mandated lockdowns in both ASM communities and in centres that service ASM communities.[24] As COVID-19 spread across the globe, borders and entire countries partially or totally shut down. For artisanal miners, this meant demand for minerals, and in some cases, the means to access their production diminished over an extremely short space of time, as did their access to finance and supply chains.[25]

Knock-on Effects of COVID-19 in the ASM Sector

The increase in illegal ASM activities is primarily attributed to the sector's appeal to the many individuals living below the poverty line.[26] The ASM sector is one such area that consistently ensures some sort of subsistence for the many desperate and poor households.[27] An overwhelming number of miners are facing food insecurity because of cost-inflation of basic goods and reduced income resulting from temporary mine closures, a drop in mineral prices and disruptions in the mineral trade chains of ASM-sourced products/materials. With the rate of growth in unemployment and drop in income, many households have been pushed into trying to make alternative livelihoods through the informal sector, such as the illegal ASM sector.[28]

"Even if governments impose a lockdown in ASM regions, it is quite likely that some miners will not comply with the various regulations simply because they need to earn money to eat."

In countries where ASM activities are considered legal, there has been a backlog of the issuance of ASM permits due to the government departments being closed for extended periods during COVID-19. Many countries, such as the DRC, require artisanal miners to renew their permits annually.[29] Without being able to renew their permits, many of the miners had little choice but to continue working illegally to feed their families.

Even if governments impose a lockdown in ASM regions, it is quite likely that some miners will not comply with the various regulations simply because they need to earn money to eat. The situation has presented governments with a challenging balancing act. They have had to weigh up putting in place strict public health measures designed to prevent and slow down the spread of the virus against the risk of permitting the virus spread by allowing people to work and feed themselves, all the while knowing that many people will not be able to receive treatment.

COVID-19 has heightened economic insecurity and caused losses in household income. As noted by the International Labour Organisation, greater informal employment coupled with economic hardship forces many children out of school and into the labour market, and this is exactly what is happening with the recent COVID-19 pandemic. [30] It has been reported by various organisations that child and youth labour in rural areas has increased significantly during the COVID-19 pandemic.[31]

The situation has been exacerbated by the temporary closure of schools, as households look for new ways to allocate children's time and find other sources of income.[32] Children have either had to move to mine sites with their parents due to movement restrictions or have been directly involved in illegal mine work to help support their families.[33]

An overwhelming number of artisanal miners are facing food insecurity because of: (i) cost-inflation of basic goods and reduced income resulting from temporary mine closures; (ii) a drop in mineral prices; (iii) scarcity of products on the market; (iv) disruptions in the trade chains of ASM-sourced products/materials; (v) closure of formal borders, blocking the usual supply routes; and (vi) depreciation of the local currency. When the borders shut down, the mineral trade came to a halt, which in turn interrupted the influx of cash in the local economy.[34]

Government Response

Many countries allowed mining activities to continue during the COVID-19 pandemic despite strict economic lockdown policies. Governments in some countries declared mineral exploration, processing, and related supply of goods and services to be "essential services".[35] These measures allowed workers who were considered critical for operations to go back to the mines, under strict sanitary conditions. Mining companies across the globe also took measures to prevent the virus from spreading across their operations for their workers and communities.[36] One example is Anglo American's "WeCare" programme, which covered its 90 000 employees and full-time contractors globally during the pandemic and set up COVID testing stations for mining community members.[37]

In South Africa, only "essential services" were permitted during lockdown, whilst other operations were placed in care and maintenance; "essential services" included mining operations.[38] South African mining companies were at the forefront of providing access to testing and vaccination facilities for their employees and the communities in which they operate.[39] Since restrictions have been gradually lifted and normal operations restored, mining activities on all levels in South Africa have resumed. Resumption of activities is provided that the mandatory "Code of Practice on the Mitigation and Management of the COVID-19 Outbreak", prescribed by the Chief Inspector of Mines, has been adopted and implemented by the mine.[40] However, because artisanal mining is considered illegal and their mining operations are prohibited by South African law, all artisanal mining activities remained restricted during the pandemic and artisanal miners were not given protection by the government, mining companies or unions.

"Whilst the remoteness of some artisanal mining communities might delay initial exposure to the virus, most communities are connected to urban centres and other areas through migrant workers, goods and services supply chains, and mineral trade."

Furthermore, the World Bank's Extractives Global Programmatic Support (EGPS) also created a new emergency response for vulnerable ASM communities impacted by COVID.[41] The emergency response was formally established in June 2020 with seed funding of one million Swiss francs from the Swiss State. The EGPS has since received financing of 4.8 million US dollars from Belgium and Germany. The emergency response addresses ASM vulnerabilities and provides short-term assistance to a range of organisations engaged in artisanal mining during COVID-19.[42]

Whilst governments across the globe have battled to contain the spread of COVID-19, it is clear that the COVID-19 pandemic has had significant impacts on the lives and livelihoods of a substantial portion of people involved in the ASM sector. COVID-19 has upended lives in many of the communities that rely on ASM, presenting significant challenges to the miners and their families as well as to local authorities and national governments, as all struggle to address and contain a health crisis the scale and nature of which has not been seen in over a century.

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Impact of COVID-19 on the Mining Sector in Sub-Saharan Africa

Jared Pringle-De Vries

Introduction

This contribution analyses the impact of COVID-19 on the mining sector in Sub-Saharan Africa. Artisanal and small-scale mining (ASM) is discussed to highlight how it could aid in combatting the long-term economic impacts of COVID-19 in the region and Africa as a whole. This seeks to highlight ASM as a tool to combat the economic impacts of COVID-19 on the mining sector in Sub-Saharan Africa.

Like many economies, Sub-Saharan Africa was already in a precarious position before the arrival of COVID-19. This resulted from challenges such as corruption that plagued the continent and reliance on foreign investment. Further, other factors, such as lack of medical infrastructure, lack of essential supplies and an increasing population, make Africa increasingly vulnerable to pandemics like COVID-19.[1]

Continuous lockdowns, travel restrictions and port closures have led to decreased demand for some natural resources, including iron ore, lithium and cobalt.[2] Further, foreign direct investment has declined due to increased uncertainty about the future and interruption of international travel.[3] This further exacerbates the negative impact of the pandemic within the mining industry as a decrease in demand, coupled with a reduction in direct foreign investment, can have catastrophic consequences for Sub-Saharan African economies. Thus, it is necessary to identify possible alternatives in the mining sector to curb such economic effects of COVID-19. This contribution contends that ASM can serve as a unique COVID-19 response required in Africa due to its economic vulnerability, coupled with a largely rural population.

Artisanal and Small-scale Mining as a Possible Solution to the Economic Impact of COVID-19

ASM in Sub-Saharan Africa is the most important non-agricultural activity providing supplementary income to cope with unexpected economic shocks.[4] ASM generates extra revenue,[5] which can supplement the lack of income from mainstream mining. ASM can provide a valuable alternative to large-scale mining operations in Sub-Saharan Africa but requires drastic legal reform to formalise ASM.

In South Africa, for instance, the Draft Policy on Artisanal and Small-scale Mining aims to formalise the ASM sector[6] to align it with international mining standards and in response to the growth of illegal mining. This seeks to ensure that ASM contributes to the economy through taxes and royalties whilst creating jobs and eliminating illegal and exploitative ASM mining operations.[7]

"decrease in demand, coupled with a reduction in direct foreign investment, can have catastrophic consequences for Sub-Saharan African economies"

Mutumeri provides a radical stance to formalise the ASM industry by arguing that a paradigm shift is required for ASM policy in Africa, which is outcome-based and relies on a more inclusive approach to policymaking for ASM.[8] In a continent where poverty and unemployment are major issues, this cannot be overlooked. The socio-economic importance of ASM to rural communities and society must be acknowledged and accounted for. ASM policies must be inclusive and follow consultation processes to provide effective policy. Mutumeri further identifies that policymakers often focus on the negative impacts of ASM and overlook the fact that it is a source of income for many households.[9]

While ASM presents some economic advantages, bodies like the Minerals Council South Africa argue that caution must be exercised as there could be serious consequences if one simply formalises a largely illegal sector.

The formalisation or promotion of ASM is imminent considering that the pandemic has seen large-scale mines become more inward-looking as they resorted to digital solutions and technology for mining in place of mineworkers, thus further decreasing the number of available jobs in the industry. Therefore, as the large-scale mines shift away from a labour-intensive workforce, policy needs to shift to other forms of mining to provide formal employment for miners. This is where ASM comes in as an alternative to large-scale traditional mining. However, for this to be effective, as the Minerals Council cautions, the ASM industry needs to be brought within the confines of the regulatory framework to avoid simply creating jobs for illegal miners.

Furthermore, it must be done to benefit both the economy and the communities in which ASM takes place while safeguarding the environment. Thus, ASM can be seen to provide a potential catch-all for the economic consequences of COVID-19 within the mining sector, where jobless miners and other affected community members can have an alternative form of employment within the mining sector in Sub-Saharan Africa. This would also benefit the economy by reducing unemployment, limiting black market mineral trade and providing opportunities for governments to collect taxes from such mines.[10] This will improve economic activities in the region and restore much-needed stability destroyed by COVID-19.[11]

"ASM generates extra revenue, which can supplement the lack of income from mainstream mining."

Conclusion

COVID-19 has had negative impacts on the mining sector in Sub-Saharan Africa. The mining sector plays a vital role in these Sub-Saharan economies. It is potentially the most vulnerable to the effects of COVID-19 in both the long and short term. The sector can be aided by formalising the ASM sector – an alternative to traditional large-scale mining. Doing so would mitigate the long-term impacts felt by mineworkers during the pandemic.

"formalisation ... of ASM is imminent considering that the pandemic has seen large-scale mines become more inward-looking as they resorted to digital solutions and technology for mining in place of mineworkers"

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In Sync? The Fourth Industrial Revolution, the Mining Industry, COVID-19 and a Just Energy Transition

Dalit Anstey

Introduction

In 2020, concepts such as "work-from-home", "zoom meeting", "lockdown" and "green recovery" have become commonplace. The COVID-19 pandemic has fundamentally altered the world in which we live. Health risks associated with traditional workplaces and social distancing regulations have increased dependency on technology and digitalisation, which has accelerated the onset and pace of the fourth industrial revolution (4IR).[1] The 4IR is characterised by technological innovations and the growing utilisation of new technologies (such as artificial intelligence – "AI", blockchain technologies, robotics and cloud computing), which have brought about a digital transformation and globalisation that has revolutionised the global economy, including the extractives industry.[2] This legacy is likely to continue beyond the COVID-19 pandemic.

COVID-19 has also caused significant devastation. Regular lockdowns globally have caused volatile markets and have resulted in high levels of unemployment.[3] The mining industry has not been spared by lockdowns, which has forced many mines to go under care and maintenance.[4] However, the mining industry has proven to be resilient amid the COVID-19 pandemic.[5] COVID-19 has pushed modernisation in mining,[6] including implementing technological developments in data, analytics and connectivity.[7]

Coinciding with the COVID-19 pandemic and the 4IR have been increasing calls for a just energy transition. Such a transition would shift from fossil-fuel-based energy systems, economies, and technologies towards low-carbon or "green" energy systems.[8] Many States are considering a "green recovery" strategy from the COVID-19 pandemic.[9] The concept of a "Just Transition" originated from trade unions in the United States of America in the 1980s and 1990s. The idea was a response to increased environmental protection and investment in promoting clean technology, which disproportionately affected minority and low-income workers and communities.[10] Trade unions called for a "Just Transition", which centred on managing the employment impacts from the transition to a green economy fairly.[11] However, the notion has developed substantially beyond its original context. It is defined by McCauley and Heffron as "a fair and equitable process of moving towards a post-carbon society … [which] process must seek fairness and equity with regards to the major global justice concerns such as ethnicity, income, gender within both developed and developing contexts".[12]

"Sustainability requires the integration of social, economic and environmental factors and consideration of current and future generations' interests."

There are various approaches to a just energy transition, including the reactionary approach, neoliberal approach, managerial reform approach, structural reform approach and transformation approach.[13] Each of these approaches differ with respect to the degree of ambition that should be pursued in relation to the just energy transition. The concept of "justice" is at the centre of a just energy transition. There are also differing approaches to "justice" including perspectives by climate justice scholars, energy justice scholars and environmental justice scholars.[14] Heffron and McCauley attempt to combine these approaches to justice into a unified "Just Transition" approach, which is rooted in core transitional justice concepts, namely, procedural justice, distributive justice and restorative justice.[15]

"COVID-19 has pushed modernisation in mining, including implementing technological developments in data, analytics and connectivity."

The International Labour Organisation's (ILO) *Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All* defines "transition" to mean a "just transition to environmentally sustainable economies and societies", where energy is only one component of a Just Transition.[16] A sustainable energy system is required, which is not only about changing electricity-generating technologies. Rather, it requires technological changes throughout energy systems' infrastructure (including transmission and distribution networks – for example, decentralised networks), supply chains, advanced metering and appliances, and social and institutional changes in consumption behaviour.[17] Sustainable energy systems are about much more than the reduction of emissions of carbon dioxide.[18] Sustainability requires the integration of social, economic and environmental factors and consideration of current and future generations' interests. Therefore, a sustainable energy system will also include security of energy supply, access to energy and pricing issues.[19]

The link between the 4IR and the just energy transition is appropriate. A reciprocal relationship has developed between energy and each of the industrial revolutions. In this regard, energy fuelled previous industrial revolutions, as it was a critical component in new manufacturing processes and technological innovations that developed (for example, steam power, waterpower and electric power). But the energy industry (including mining) also benefitted immensely from innovations in previous industrial revolutions, which enhanced extraction and distribution possibilities. It is a story of fossil fuels that underpins the reciprocity that has historically developed between energy and previous industrial revolutions.

The onset of the 4IR and the just energy transition will signal the beginning of a new chapter in the story of energy and industrial revolutions. The challenge of the 4IR will be how to marry developments in technology and digitalisation with sustainable energy systems. To this challenge we now turn.

Challenges Posed by the 4IR to a Just Energy Transition and Recommendations

A critical component of a just energy transition (especially in light of the concept's roots) is that workers do not disproportionately bear the costs of the shift to greener technologies. This would appear to be at odds with the 4IR. The 4IR contemplates the adoption of robots, AI and other technologies in mechanisation, extraction and manufacturing processes, eliminating many jobs (especially those typically known as "unskilled" or "low skilled" jobs).[20] It is claimed that new forms of technology associated with the 4IR will generate high-quality, high-wage workers, but only a few of them.[21] The 4IR will require new jobs, which will require expanded contact and interconnectedness between humans and machines.[22] These new jobs will require the development of new skillsets and changes to the education system to learn these skills. To harness the opportunities associated with the 4IR and a just energy transition, the scientific, technical, social, legal and institutional aspects must be understood.[23] Clear objectives must be set. New industries must be identified and new approaches adopted.

The African continent is well-endowed with natural resources. However, Africa does not benefit from the full value-chain of its minerals and extractives industry.[24] A mutually reinforcing beneficiation or manufacturing sector to process raw materials has been lacking across the entire continent.[25] There is potential to establish a beneficiation and manufacturing network across the continent,[26] especially with the commencement of the African Continental Free Trade Area.[27] Such a network can contribute to the uptake of green technologies and practices will require "green metals" (including lithium, cobalt, copper and platinum, which are utilised in electric vehicles and renewable energy) and is supported by greener energy.[28] Creation of a previously lacking beneficiation sector to support mining of "green metals" would create many new jobs, despite the increased uptake of technology.[29]

There is much debate regarding the current state of technology infrastructure across the continent and its readiness to support the 4IR.[30] Some argue that the limited technological infrastructure across Africa puts it in a prime position to absorb sustainable technologies. The continent could "leapfrog" ahead of developed countries to skip the stages of carbon-intensive industrialisation that characterised previous industrial revolutions.[31] However, others argue that expecting developing countries to industrialise without using traditional sources of energy, including firewood and charcoal, which tend to be more carbon-intensive, is unreasonable and unfair,

and neglects the progressive nature of energy.[32] The concept of "justice" is a critical component of the concept of a just energy transition. Justice will depend on the lens of justice adopted (for example, environmental, climate or energy justice, or the "Just Transition" approach)[33] and context. Recent developments in sustainable finance and Environmental, Social and Governance ("ESG") are directing investments away from fossil fuels and are increasing opportunities for financing of sustainable energy systems.[34] Consequently, it may become uneconomic to continue investing in the coal value chain and other fossil fuels, leaving the continent with few other options but to implement a just energy transition at an accelerated pace. Questions are being raised by cabinet members responsible for mineral resources and energy in South Africa regarding energy security in the context of an accelerated just energy transition.[35]

"Coinciding with the COVID-19 pandemic and the 4IR have been increasing calls for a just energy transition."

Growing opportunities for financing a just energy transition enables the adoption of technology required to build sustainable energy systems. There is consequently major opportunity to align and synchronise the 4IR and a just energy transition and for the one to bolster the other.

For various reasons, the extractives industry is notorious for having a gender diversity problem.[36] The 4IR is an opportunity to overcome inequalities, as it provides ways to upskill women.[37] According to the current president of the Minerals Council of South Africa, "companies are adopting a more people-centred 4IR approach. This means that the focus is not only on technology but on work culture, upskilling and reskilling."[38] A people-centred 4IR approach must include women.[39] Growing emphasis on ESG considerations is revealing the critical role that diversity plays in achieving goals. Achieving diversity in the workplace will require all stakeholders to play their part.

Conclusion

Reciprocity characterises the nexus between energy and industrial revolutions. Energy is required to fuel developments in technology and manufacturing processes. The energy industry also benefits immensely from developments in technology and manufacturing, which enhance efficiency. Previous industrial revolutions can be viewed as a story of fossil fuels. The 4IR signals an opportunity to commence with a new chapter in the story, a just energy transition.

There are many challenges associated with the 4IR that can undermine a just energy transition and sustainable energy systems, including job losses, replacement of human work by the work of machines, exacerbating diversity gaps, and a lack of technical infrastructure to support the 4IR. Stakeholders must carefully manage these challenges. Recommendations include identifying new industries (for example, in green technology and mechanisation) that build on the skills and knowledge of previous experience and learnings, investing in a manufacturing and beneficiation sector to support the "green revolution" and mining of green metals, and remedying gender diversity imbalances by investment in upskilling and reskilling.

"The 4IR signals an opportunity to commence with a new chapter in the story, a just energy transition."

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The Fourth Industrial Revolution and Mining Under COVID-19: Do We Have the Legal Infrastructure to Support this Revolution?

Simphiwe Moyo

Introduction

Efficiency, the tremendous urge to achieve more by using less energy, has been a constant overarching theme of human life for as long as humanity can remember. The industrial revolution began in the 18th century, an era marked by coal and steam innovations. Fast forward to the 21st century, and we are confronted with an intriguing eco-industrial phenomenon known as the fourth industrial revolution, which is lingering on our doorstep.[1] This growth is juxtaposed with the historical recurrence of what humans fear and have dubbed pandemics. These two concurrent phenomena, albeit distinct from one another, converge at an intersection that this contribution aims to examine and address. That is, whether we have the legal infrastructure to enable the fourth industrial revolution and cope with the pandemic's consequences in the mining industry.

The fourth industrial revolution is described as a nexus between humans and machines, characterised by a growing technical area that encompasses biotechnology, artificial intelligence and nanotechnology.[2] The fourth industrial revolution is an advanced stage of the third industrial revolution, the latter of which we are we are presently experiencing. It is crucial to note that there is no universal application of this concept of the fourth industrial revolution, since socio-economic variables impact the research and implementation of such ideas. Economically stable countries such as China have benefited from technological advancements such as the emergence of blockchain technology and artificial intelligence, all of which have seen sporadic growth in the East. They have coined the term "the fourth modernisation", which is the main focus of the fourth industrial revolution.[3] This fact is evident in countries such as China, through the rise of green energy,[4] electric cars,[5] and even increased production through automated technology in industries.[6] The situation in European countries contrasts with their African counterparts, who bear the burden of trying to catch up.

Problems Faced in the Mining Sector Due to COVID-19

The globe has suffered greatly because of the COVID-19 epidemic.[7] Countries and individuals have lost money, and families and States have been financially brought to their knees. Even if pandemics and epidemics are not new to humanity, we see a repetitive pattern as to their effects. For example, the Spanish flu of 1918 saw a decline in economic activity and hyperinflation.[8] The mining industry has not been immune to the COVID-19 pandemic's consequences. There is a noticeable difference between mining activities before and after the COVID-19 pandemic. For example, due to COVID-19 regulations, issued in response to the raging pandemic, mines were only permitted to resume operations at no more than 50 percent capacity after the initial hard lockdown,[9] which resulted in a drop in production.

One example of a difficulty caused by COVID-19 is one of logistics.[10] Countries closed their borders and migration was limited because of the pandemic. Under the level 5 lockdown regulations, South Africa's internal and external

borders were temporarily shut down with limited operational capacity.[11] Cargo and goods could be transported. However, due to the 50 percent operational capacity requirements imposed by government on mines, there was a domino effect on the logistics of minerals as supply chains did not run effectively. The logistics issue was an issue not just for the mines' profitability but also for the tax revenue that the State lost. In addition, the logistical issue spawned a second issue – one of supply and demand.

"The fourth industrial revolution is described as a nexus between humans and machines, characterised by a growing technical area that encompasses biotechnology, artificial intelligence and nanotechnology."

The supply and demand dilemma is inextricably related to the logistics problem in that supply is reduced due to the closure of ports, borders and road travel, resulting in a surge in demand that cannot be met. Supply and demand issues are seen in the current worldwide chip shortage issue. The Democratic Republic of the Congo produces most of the world's cobalt, a mineral required for chip production, which is critical for electronic manufacturing.[12] Because the supply and demand chain was disrupted due to the closure of ports, there was a shortfall in the manufacture of phones, consoles and even automobiles.

The Fourth Industrial Revolution and COVID-19

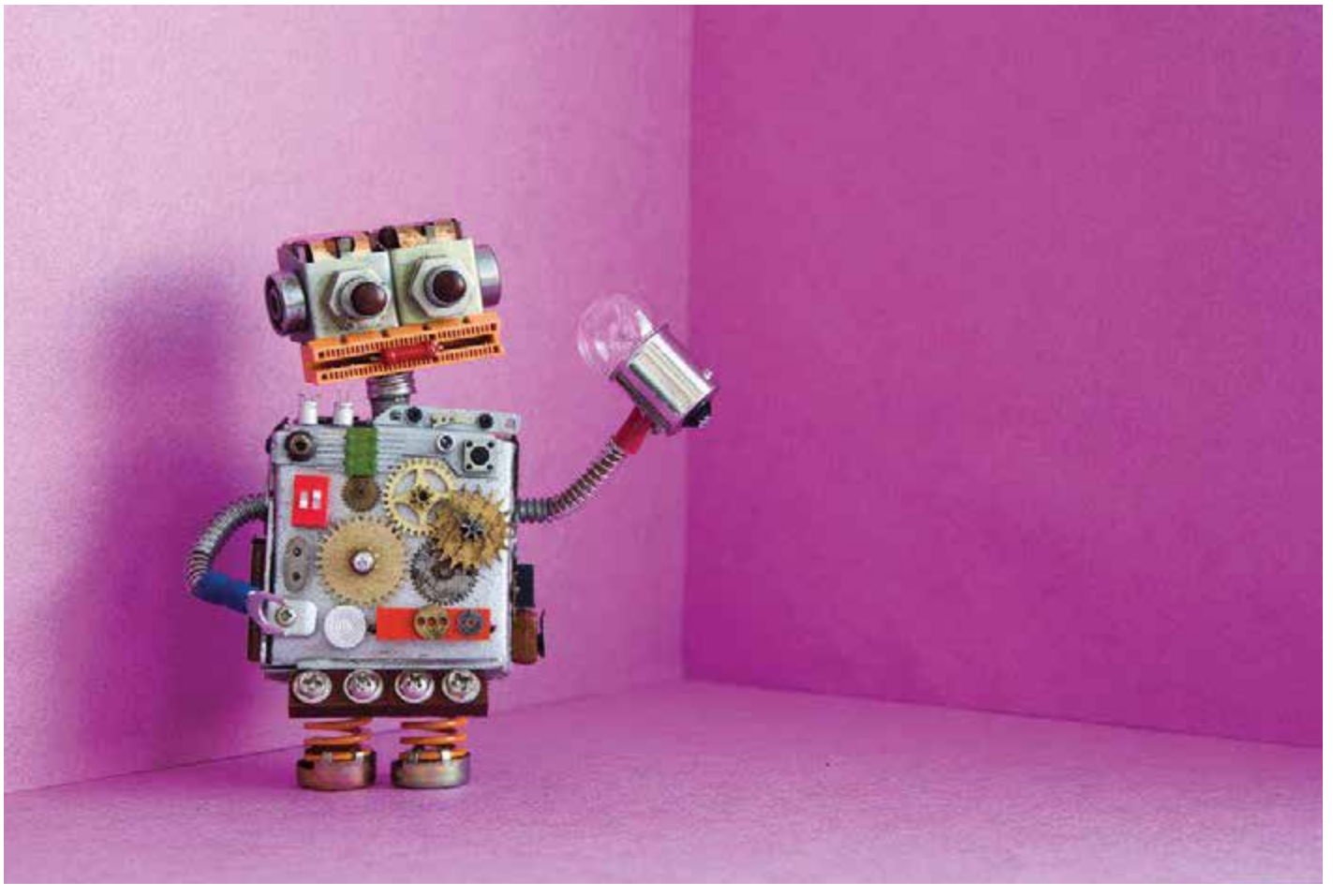
The fourth industrial revolution is distinguished by significant technical advances and advancements designed to make production easier and more efficient. The revolution's technological aid is the initial point of contact between the fourth industrial revolution and mining. The revolution is believed to transform humans from machine operators to problem-solvers and decision-makers. This transformation is significant in the mining sector since machine learning and programming can increase output levels. Aside from improving output, it would aid in mine safety and employee security in line with the Mine Health and Safety Act[13] (section 6) where workers are entitled to protective clothing. Technological advancements not only boost productivity but also promote safety in the workplace, given that the fourth industrial revolution could also be used to look at the safety aspect of mining.

However, it would be foolish to overlook the ramifications of these developments. For example, the loss of much-needed jobs as technological advancements and the inclusion of automated systems reduce the workforce as employers see no need to retain some employees if they have machines and systems that can do the job more efficiently. This possibility is also relevant to COVID-19. Companies had to lay off people due to the closure of their businesses; curfews and travel restrictions across the globe affected the hospitality sector, where the lockdown caused a reduction in tourism and, as a consequence, loss of jobs.[14] Using the hospitality industry as an example, technology is seen in self-check-in and automated cleaning systems, which means a reduction in the workforce. However, because mining contributes significantly to job generation and GDP, the fourth industrial revolution could in fact alleviate and promote an increase in trade and production resulting in recovery from the dire effects of COVID-19. Education levels are also an important consideration because much of the mine labour force has a poor level of education, making implementation difficult as the introduction of technology and advanced systems requires a complex learning process.

The fourth industrial revolution's technology could significantly slow the spread and impact of the COVID-19 pandemic. Production levels fell in South Africa when mines were temporarily closed and then reopened. Mines are operating at 50 percent capacity due to the workplace's nature, which is a tight environment that makes social distancing difficult, whilst some mines with careful adherence to social distancing and COVID testing can operate at full capacity. Temperature-detecting cameras and smart masks are all examples of technology in line with the fourth industrial revolution and adapted to the pandemic.[15] The former uses infrared technology to determine one's body temperature, and the latter, which is still under development, changes colour upon the detection of the virus in the wearer of the mask. Cameras that measure temperature are a typical example.[16] They have spread across the country and are now found in public buildings, airports and ports of entry. These cameras employ sophisticated thermal and infrared sensors to identify body heat quickly. In the mining industry, this technology allows companies to screen personnel swiftly and efficiently without the time-consuming labour of traditional thermometers. Consequently, these technical modifications help the sector advance technologically while still ensuring a safe working environment.

Legislative Framework for the Incorporation of the Fourth Industrial Revolution

The fourth industrial revolution must be integrated into the mining sector or the whole economy, which requires, among other things, a legislative structure that can support such a development. There are currently statutes in South Africa that are relevant to the current technological shift; for example, the Electronic Communications and Transactions Act,[17] which aims to regulate electronic communications, or the Technology Innovation Agency Act,[18] which aims to promote the development and exploitation of technological innovations. These Acts are intended to accommodate and govern technological developments for the public good.



The mining sector has enacted some unique laws that have the potential to bring in a new era of technology. The Mineral Technology Act[19] is an excellent example of legislation designed to support the mining industry's fourth industrial revolution. This Act aims to encourage mining via research, development and technology transfer. Because of the ease with which technology allows people to communicate with one another, the globe is referred to as a global marketplace. Researchers and developers from across the world may share ideas and solutions to make mining more technologically sophisticated. This Act allows for such collaboration to occur in South Africa.

"The fourth industrial revolution is distinguished by significant technical advances and advancements designed to make production easier and more efficient."

In addition to the Mineral Technology Act, the Technology Innovation Agency Act may aid in the development of the legislative framework required for the fourth industrial revolution. This Act establishes a technology innovation agency with the goal of bridging the gap between research and development and diverse institutions, notably higher education institutions. The encouragement and promotion of research and development amongst the youth and various educational stakeholders is important if the country is to go forward, particularly in the mining industry, because young people are the future. With the continual evolution of technical breakthroughs, there will be a need for additional possibilities for creativity and assistance.

"The fourth industrial revolution's technology could significantly slow the spread and impact of the COVID-19 pandemic."

Conclusion

To summarise, the mining sector is constantly evolving. Over time, technological improvements have permitted deeper and more efficient mining processes. However, as much as COVID-19 has hampered economic progress, the looming fourth industrial revolution paves the way for technological

advancements across the board in sectors such as mining, production and manufacturing. Even the transportation industry has begun to adapt, with the Western Cape government launching electric buses on the road. Ultimately, it is important that we prepare a legal framework that would accommodate the looming fourth industrial revolution to not be caught off-guard and unprepared for what is to come.

"The fourth industrial revolution must be integrated into the mining sector or the whole economy, which requires, among other things, a legislative structure that can support such a development."

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Fourth Industrial Revolution and Mining: Does South Africa's Legal Framework Support the Uptick in the Mining Sector's Use of IoT in the Backdrop of COVID-19?

Lunga Mofana

Introduction

The ongoing COVID-19 pandemic (the pandemic) stifled several facets of the mining sector. It thwarted minerals exploration, mining operations and mining capacity, to name a few. Consequently, South Africa's mining productivity is facing critical challenges. There has been an over 7.6 percent mining productivity decline in the last decade. In 2021 alone, two-thirds of South Africa's mining output sits at the upper half of the global mining cost curve.[1] The pandemic severely exacerbated this downgrade. Hence, the management of day-to-day operations and the maintenance and storage technologies of mining businesses must adapt to the pandemic's characteristic remote-work setting. Furthermore, there is an urgent need for mining businesses to revamp their health and safety measures to meet the pandemic targets, which include protecting equipment and mineworkers.

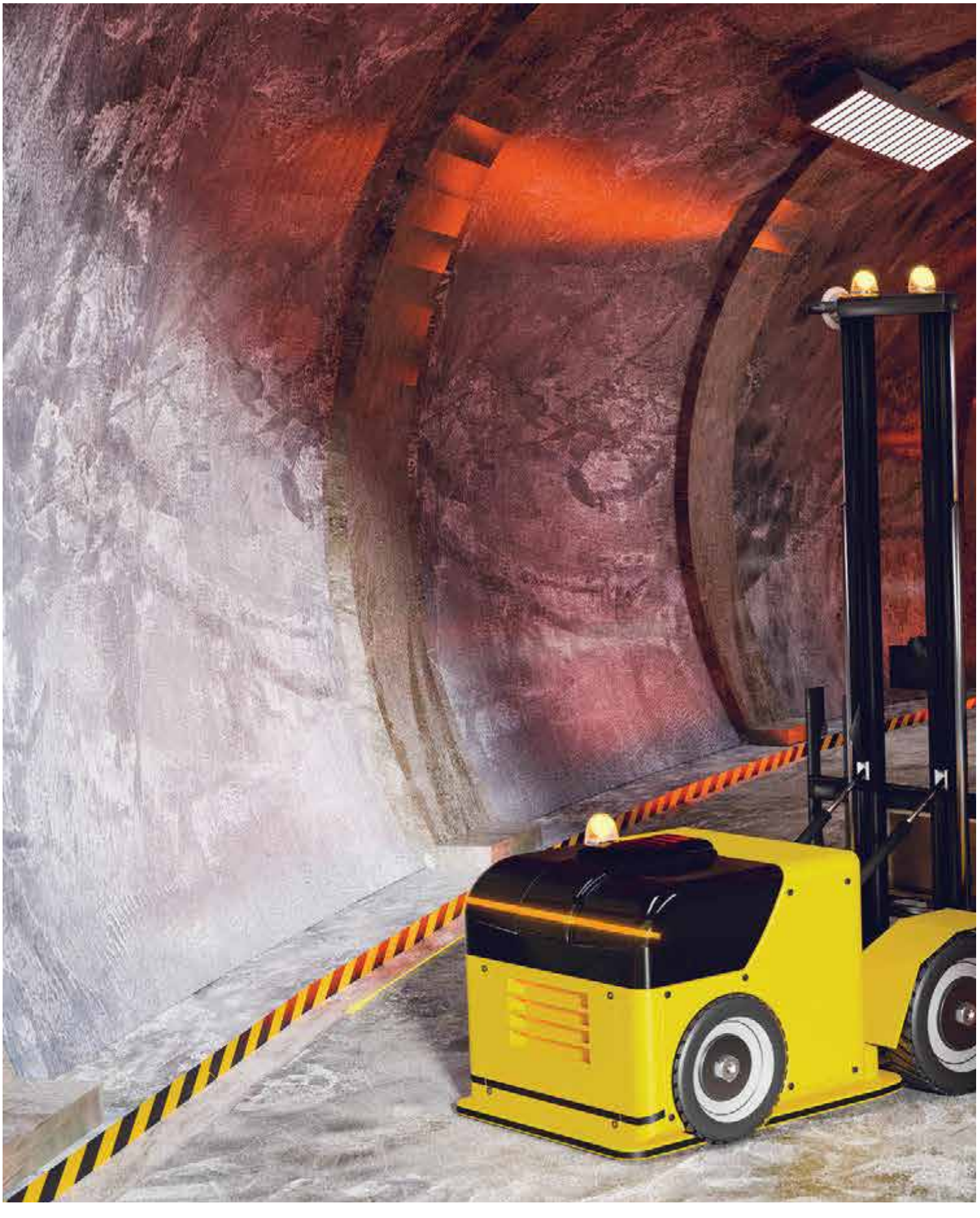
However, in a time of crisis, opportunities arise. One such opportunity in the mining context is the impact of the fourth industrial revolution (4IR) which has been initiated by the rapid fusion of advances in industrial artificial intelligence (AI), robotics and the Internet of Things (IoT).[2] Establishing whether South Africa has the physical and legal capacity to expand on the mining sector's uptick of technological advances and adjust to waves of disruption helps gauge whether it can compete with its global contemporaries.

IoT, Mining and COVID-19 as the Disruptive Event

Rapid 4IR advances (i.e. in the IoT sphere) have had the general effect of blurring the boundaries between digital, biological and physical worlds. The mining industry is largely reliant on the latter.

The IoT describes the network of "things"[3] embedded in software and other autonomous and interconnected tools to enable the exchange of data to link with other online systems and manage the complex web of distribution, delivery and production in technical industries like mining.[4] Thus, in the face of the world's most challenging disruptive events such as the pandemic, investment incentives and opportunities presented by the 4IR in the mining industry must be strategically pursued.

Moreover, the industrial IoT can facilitate the use of AI in the mining sector. For instance, new research shows that investment in industry IoT projects can be a means to achieve cost and productivity optimisation in existing mining operations.[5] From minerals exploration to processing and transportation, AI's power to enhance IoT solutions to streamline industrial operations, maintain business continuity and improve safety within the mining industry during crises is glaring.



The Mineral Technology Legal Framework and the Foresight Africa Report

The Mineral Technology Council (Mintek),[6] the leading role-player in supporting mineral technology, offers key policy goals, including collecting, organising, retrieving and distributing information that enhances industrial value by meeting the high-level objective of making South Africa a leader in mineral skills and innovation. Mintek seeks to promote thorough technology transfer and ensure the formation and expansion of South African industries in the minerals field and the goods derived therefrom through means such as funding.[7] Mintek may also undertake to utilise better or make available the technological expertise in its possession.[8] It thus empowers South African mining houses with the capacity to fast-track their IoT initiatives. Though the pandemic became a significant disruptive moment in the mining sector, it offers Mintek an opportunity to usher in sectoral change as envisaged by the Mineral Technology Act.

"the management of day-to-day operations and the maintenance and storage technologies of mining businesses must adapt to the pandemic's characteristic remote-work setting"

Other mining stakeholders throughout Africa have also vowed to have fully harnessed the potential that technological innovation has to grow the African economy by 2030.[9] The Foresight Africa 2020 report (the Report) was drafted in anticipation of meaningful developments over the long term in this regard. It mirrors Mintek's commitment to "navigating … turbulent waters with very little bruises".[10] In so doing, it evinces Mintek's preparedness to position innovative research and technological development at the core of its activities and operations. For example, Mintek has also collaborated with biotechnology companies to rapidly develop COVID-19 testing kits at a large production capacity and with minimal turnaround time.[11] This demonstrates the legal framework and its institutions' commitment to a holistic and inclusive approach in employing and developing leading, current and advanced technological solutions at the industrial level during the pandemic.

Arguably, the law supports and facilitates the uptick of IoT use in the mining sector in the pandemic setting. However, there is room for improvement as domestic progress in this regard is slow. Governmental response and regulations often tend to be as unpredictable as COVID-19 itself. Therefore, drawing inspiration from its western counterparts, Mintek's framework must incorporate a far larger degree of scalability and flexibility in facilitating industry-wide IoT system development. Its solutions must allow more room for existing mining infrastructure to securely deploy IoT systems while preparing for further internal and external setbacks.

Some Caveats

Maturing and implementing IoT projects presents South Africa's mining industry with the opportunity to keep operations going autonomously despite the disruptive but reagent pandemic.[12] However, notwithstanding the positives, the foremost challenge that must be catered for by South Africa's mining sector when expanding its IoT deployments in the context of the pandemic is that of data security. The need for more investment levels in the IoT for mining organisations may open the floodgates for serious data and security breaches such as external cyberattacks.[13]

"Though the pandemic became a significant disruptive moment in the mining sector, it offers Mintek an opportunity to usher in sectoral change as envisaged by the Mineral Technology Act."

This is an area of concern that mining companies must anticipate early, owing to the value of their commercial data and the significance of their geopolitical statuses.[14] Other hurdles mining companies must expect to trounce in this regard include ensuring compliance with requirements, conducting sound internal data regulation, securing storage of collected data and maintaining good network security. In addition, policymakers must proactively prepare to keep supply chains going in the mining sector by specifically incorporating and developing new security technologies. It is foreseeable that South African mining businesses will be particularly concerned about the risk of poor network security and connectivity.

However, this is perhaps where the South African legal infrastructure stands out. The recently passed Protection of Personal Information Act (the POPIA) along with the Promotion of Access to Information Act (the PAIA) establish world-class legislative standards and far-reaching protections characteristic of a legal infrastructure that gives effect to the constitutional rights to privacy and access to information.[15]

"in the face of the world's most challenging disruptive events such as the pandemic, investment incentives and opportunities presented by the 4IR in the mining industry must be strategically pursued"

Thus, the 4IR's technological advancements, supported by a facilitative legal framework, offer South Africa's mining sector the capacity to better the lives of all citizens in the backdrop of the pandemic. However, these developments and possibilities must be sustainably used in the search for not only a healthily competitive global society, but, most importantly, a more just and humanitarian one. Therefore, what is most important for mining houses to consider is whether the new normal catalysed by the pandemic created an opportunity to use these technologies to better the lives of all South Africans rather than for a select few.

"notwithstanding the positives, the foremost challenge that must be catered for by South Africa's mining sector when expanding its IoT deployments in the context of the pandemic is that of data security"

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Conclusion: Out of the Woods?

Drs Bernard Kengni and Richard Cramer

As of writing, all COVID-19 restrictions have been lifted in South Africa.[1] No 6th wave of COVID-19 occurred during South Africa's winter of 2022, and new cases have remained low for months, although such may be due to lack of testing and accurate reporting. COVID-19's current variants appear to be comparatively mild,[2] and as a result, the virus is no longer as feared as it was in March 2020. A positive COVID-19 test is now seen as more of an inconvenience than anything else, although uncertainty and concern in respect of the long-term effects of even mild infection remain.[3] The original hard lockdown and months of social isolation are steadily becoming a distant memory for some, although the economic scars and heartache over lost loved ones remain for others. At least in South Africa, things have returned to a relative normal.

The pieces collected in this anthology were written at various times over the past two years, some during times when most people, with the exception of essential workers, were working at home. Now, most people have returned to the office, and the mining industry has been operating at full capacity long before the curtailment of the last of the pandemic-related restrictions. These pieces may seem no longer to be speaking to our reality, but they do: they form a critical time capsule, a reminder of what was, and what could be again. Even if future variants of COVID-19 may remain mild (for which there is no guarantee), COVID-19 will not be the last pathogen with which the mining industry has to grapple.

The lessons of COVID-19 do not only relate to the immediate business of large mining companies, but also to artisanal and small-scale miners across the continent. And the

economic ravages of COVID-19 have had a wider impact on business, from insurance to mergers and acquisitions. While it is impossible to cover the full spectrum of COVID-19's impact on mining, the contributors to this volume have provided much food for thought going forward.

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The lessons of COVID-19 must not be forgotten if we are to combat future outbreaks of disease of whatever nature in the mining industry effectively. From the challenges posed by an airborne disease, to occupational health and safety in an industry in which workers operate in confined spaces underground, to the need to protect not only workers but surrounding communities, the pieces in this volume provide these lessons. The contributions also provide lessons regarding how pandemics have been handled historically in the mining industry and how they could be handled going forward. In this regard, a response from both government and industry has proven instrumental.[4] Such response must, however, adopt and adapt to a new safety strategy capable of rendering the industry safer and continuously productive, considering that it can play a significant role in the recovery of countries' economies post-COVID-19.[5] For example, the fourth industrial revolution should be considered as part of the mining industry's safety strategy. This technology can also be relied on in future to keep mines operational during pandemics as a means to protect the health of mineworkers.[6] Other lessons include arguments for new directions to enhance economic recovery post-COVID-19. These directions include the formalisation of artisanal and small-scale mining to create pathways for its actors to contribute towards post-COVID-19 economic recovery strategies effectively and transparently.[7] Also, to enhance responses to pandemics and recovery plans, a case is made for governments to focus more attention on the management of post-COVID-19 recovery plans.[8]

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Whether such lessons are effectively learnt, and remembered when next a novel pathogen strikes, remains to be seen. What is critical is that demanding transparency and accountability of the mining industry remains key.

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4 A van Wyngaard "A Pandemic of Inequality: Reflections on AIDS and COVID-19 in the Southern African Context" (2022) 21 *African Journal of AIDS Research* 152, 153.

5 Guideline for the Compilation of a Mandatory Code of Practice for the Mitigation and Management of COVID-19 Outbreak, GN R280 in *GG* 43335 of 18 May 2020.

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