

Deep down in the disused shafts

Journalist **Mark Olalde** is a young American journalist who cut his teeth on The Star as an intern from the Medill School of Journalism at Chicago's Northwestern University. This year, he returned to South Africa, sponsored by the Fund for Investigative Journalism and hosted by Wits University's Centre for Sustainability in Mining and Industry, to investigate the phenomenon of illegal miners or zama zamas for The Star. This is what he found

THE ZAMA zamas crowded around us, sensing the incursion into their sanctuary and drawn to investigate. The group swelled as interest grew. Suddenly, blue lights. One, two, now six police vehicles cruised past the entrance to the Materiana informal settlement located directly on top of Blyvooruitzicht Gold Mine, south of Carletonville. Some zamas took off running; the rest eyed us suspiciously.

The night before, a gun battle blazed for an hour between 100 assault weapon-armed zamas and equally heavily armed mine security, mainly drawn from the hated apartheid-era Kooisepoet Namibian special police. Security forces had just engaged and shot another zama, and the cops were finally making their presence felt. But they drove on, obviously wary of the settlement.

Zama zamas hold a mythical place in Joburg's imagination, but researchers and activists are renewing a push to bring them out of the shadows, towards regulation. However, a multitude of roadblocks and differing opinions lie on the path to legislation, and the effort progresses slowly.

Even the title "zama zama" – an iteration of "We try! We try!" in Zulu – evokes far-ranging reactions. Some affected parties argue illegal miners should be punished for their criminal activity, while others claim only legalisation will defuse the situation. For their part, many zamas wear the title proudly, a mark of their efforts towards a better life.

At Blyvooruitzicht, the zamas' attention returned to us, and as the conversation carried on in Sotho, I looked around the crowd. They were an understandably ragtag group, undocumented immigrants from Lesotho, one man explained.

Wearing blankets to both ward off a slight chill and conceal guns, they passed around shared cigarettes. A zama exhaled smoke past a tobacco-stained front tooth, one of the last in his mouth. One stood barefoot. Another's red socks poked through the holes in his rubber boots.

"Everyday, I'll wake up to go and search. A week or two or even three months could go by without identifying the kind of soil that has the rich elements," one of the several hundred zamas at Blyvooruitzicht explained. "I don't give up, I keep carrying on."

Most zamas operating on the Witwatersrand goldfields are foreign, either undocumented immigrants or former mineworkers who lost their jobs and never left. As the workforce ages, a new generation of zamas emerges, having learnt mining from older zamas instead of a legal workplace.

The South African Human Rights Commission (SAHRC) recently released a comprehensive report on unregulated artisanal mining, in it estimating South Africa hosts anywhere between 8 000 and upwards of 30 000 artisanal miners.

Many researchers give a much higher estimate: it is understood that each zama supports as many as six people, the commission estimated.

The decline of gold resources is no secret, and South Africa hosts over 920 000 ex-mineworkers – at least a third of whom are migrants – and over half-a-million in the gold sector.

The Department of Labour predicts another 145 000 retrenchments in the mining industry in coming years.

With few if any non-mining skills and often not enough money in their retrenchment packages to return home, they have little choice but to return to the oft-abandoned mines they once worked, the failed system of mine closure leaving prime real estate unguarded across the country.

"If you want to deal with those miners who are being retrenched, you would have to be much more robust on your 'Social and Labour plans,'" commissioner Janet Love



AT THE BOTTOM OF THE CHAIN: An illegal miner pans for gold at the Zamimpilo informal settlement next to Riverlea. It's not easy work and it's dangerous but most zama zamas feel a sense of pride that, at least, it is work.

PICTURES: ITUMELENG ENGLISH

of the SAHRC said. "At this point, Social and Labour plans don't even deal with South Africans who are internal migrants."

One highly organised group of zamas operates near Riverlea, ironically concentrated at the heritage site where George Harrison struck gold 129 years ago. The zamas working there complain of police shakedowns, gangs of zamas willing to use violence to steal gold ore and deadly cave-ins.

"There's no job in KZN (KwaZulu-Natal). That's why I'm coming in Joburg," one zama explained simply, in broken English. He was afraid to work underground, so he's a type of security guard, protecting his group from would-be thieves. Most of his co-workers were ex-mineworkers from Zimbabwe and Malawi, and most of them, himself included, worked to send money back to their families.

"That's why they call me 'zama zama', because I'm working," the zama said, with a touch of pride in his voice.

David van Wyk, a researcher with the Bench Marks Foundation, works with communities affected by mining. "Practically speaking, these guys are just trying to make a living to put their kids through school," he said.

Zamas work in dangerous conditions,



COMING UP FOR AIR: Illegal miners makes their way home after a long day, perhaps a couple of days, or even a week risking their lives digging for gold dust.

often underground, where acid mine water full of toxic heavy metals is the norm. Rival syndicates and ethnic groups fight each other for territory and, one leading

headline-generating shoot-outs.

"Regulating the so-called illegal mining is the same as trying to regulate, for example, sex work or the minor drug trade,

things like marijuana. If you regulate it, you can control it better. You can eliminate the violence associated with it," Van Wyk argued.

Researchers agree that neither ignoring the problem nor relying on force has done anything to lower the impacts. The SAPS was called about 2 200 times in the second half of 2011 through to the first half of last year in response to illegal mining activities.

"It's happening in the Northern Cape already. It's happening in Free State. It is happening in Mpumalanga. It is happening in Limpopo.

"It is happening in North West, and it is happening in Gauteng, just to our knowledge. In all likelihood, it is probably also happening in KwaZulu-Natal," Love said. Most of the gold mined by zamas is either untraceable by large-scale mining outfits or comes from ore far too low a grade to be profitable for large companies to mine.

Illegal mining directly affects companies' bottom lines mainly through theft of cable and other infrastructure and the need for companies to expend additional resources on security and health personnel.

According to a report last year by the Chamber of Mines, gold theft through illegal mining constitutes between five and

10 percent of the gold industry annually. It's the most recent data from 2013, that equated to between R3.6 and R7.2 billion.

But gold in the Witwatersrand is no native, meaning the zamas must find a way to break the chemical bonds locking gold with sulphite in ore.

To solve this problem, the miners mix the crush and strained rocks and soil with mercury before burning off the mercury using oxygen tank-fed fires. This leads to air and water pollution as well as consequences for the health of zamas and their communities.

"Of course, the question is: What is the supply chain of mercury? Mercury doesn't fall from heaven," Van Wyk said. "So some one must be supplying the mercury, and we suspect it's the same syndicates, sponsors who buy the gold."

"We know that for a fact, zama zama mining is a cartel-based industry and the workers that you see that are zama zamas are the bottom of the pyramid," said Kgoboto Nhlengetwa, a mining geologist researching artisanal mining at the University of the Witwatersrand. The Chamber and the SAPS identified a five-tier syndicate system in which zamas exist as the bottom rung.

"The gold moves up the chain before it makes its way into refineries and the legal markets in India, East Asia, Europe and elsewhere."

The Chamber's 2014 report also made note of concerns about the use of illegal mining profits: "Often, the proceeds are used to fund other syndicated criminal activity, such as gun smuggling, human trafficking and human smuggling of drugs."

Nhlengetwa argued that what she calls "partial formalisation" could separate artisanal mining out of cartels. "You can't formalise zama zama mining because it's a cartel-based industry, you can't. But what you can do is try to create another main stream economy that will automatically force that to disintegrate," she said.

However, the Department of Mineral Resources and the Chamber continue to assert that they will not consider working with an illegal activity, a stance effectively taking them out of productive conversation about legalisation. Additional issues surrounding undocumented immigrants and unpermitted mines stand in the way as well.

There is precedent for legalisation though. Small-scale and artisanal mining have existed across Africa for over a thousand years, and many African nations have legalised it already.

In Zimbabwe, for example, artisanal gold mining is legal in a system that includes regulated refineries and a government entity acting as the only licensee buyer.

This set-up has largely removed the use of mercury in processing and children from the mines, explained Njabulo Chipangura, an archaeologist with the National Museums and Monuments of Zimbabwe.

He acknowledged that as long as there is high unemployment and poor mine closure – the same issues causing illegal mining in South Africa – then artisanal mining will continue, regulated or not.

Of course, illegal activities carry over because the government pays 30 percent less than the barons running Zimbabwe's black market, but Chipangura believes the remaining illegal miners will apply for a permit as soon as they save enough money to afford it.

Even the government has stopped harassing illegal miners.

"The police have realised that illegal mining or small-scale mining is one of the ways they can create employment, so instead of stopping them and chasing them, they just let them mine with the hopes that one day, they will register," Chipangura said.