

A small-scale miner displays a piece of gold ore.

The SAPS received about 2 200 calls about violence related to illegal mining between the second half of 2011 and the first "Mercury might as well be half of 2014. The police arrested about 800 illegal miners from currency with them," Nhlen-

the beginning of 2016 through getwa said. "There's no way mid-September. An estimated those guys can source that. There's absolutely no way, so 70% of those arrested were illegal immigrants, the majorwho's giving it to them?" The use of mercury is also ity coming from Zimbabwe, Lesotho and Mozambique. one of illegal mining's many Zamas say police are not health concerns. Deadly caveins constitute another major

clear from blame, echoing one another's stories of police harassment.

unemployment nationwide, as

many as 30 000 people work in

the country's informal economy as small-scale miners.

Men like Tsikwa are called zama zamas - a title meaning

"We try! We try!" in Zulu - and mine the oft-abandoned shafts of the country's shrinking gold

Following mining's boom and bust economics, small-

scale gold mining has grown exponentially over the past two

decades, and researchers are

looking across the continent for

Johannesburg, zama activity has proven to be the most dif-

ficult form of small-scale min-

ing to regulate, as it is the only sector featuring rampant gang

violence and the involvement

of international criminal syn-

Located mainly around

potential solutions.

One zama from Mozambique who processed gold in the Zamimpilo informal settlement up Main Reef Rd, from Langlaagte, asked not to be named, fearing police retribution. "If police officers find you with a bag of sand, they only take the bag and they leave you behind," he said in Zulu, adding that other zamas sometimes buy stolen ore from police.

Nikisi Lesufi is the senior executive for environment, health and legacies at the Chamber of Mines, which represents mining houses comprising about 90% of the country's minerals extraction industry. "In terms of our current mining operations, there's an element of infiltration by illegal miners, so there are security and criminality concerns," he

International syndicates are widely believed to sponsor zama activity, organising tools and groceries while smuggling the product into international markets. Identifying this link between illegal mining and the legal markets continues to frustrate observers

Kgothatso Nhlengetwa, a small-scale mining researcher at the University of the Witwatersrand, said zamas use tools that would be nearly impossible to procure without a benefactor: oxygen to burn ore, generators for below-ground operations and mercury for

Of roughly 6 000 abandoned sites, only about 20 have been rehabilitated.

hazard, as zamas often mine load-bearing pillars in under-Mozambique," he said. While the industry's employground mines in the seismically active Witwatersrand Basin. ment peaked in 1987 with David van Wyk is a more than 760 000 jobs, now fewer than 500 000 miners are researcher with the Bench

Marks Foundation who hopes employed across the country. to organise zamas into co-opera-Migrant labour patterns further complicate the situation, as tives to work toward a safer Johannesburg attracts floods of "Many of them are people job-seekers from across sub-Saharan Africa during periods of who have been mineworkers in the past, whose retrenchment

packages were not sufficient

for them to even get home to

Zimbabwe, the Eastern Cape or

Another Mozambican zama who lives in the Zamimpilo settlement said, speaking in Zulu, his work provided for his two children and his parents who still lived in Maputo. "We work Monday to Sunday," he said, asking not be named to protect him from other zamas. 'We work seven days a week. We have no other job we know except this one.'

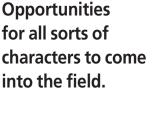
Activists such as Van Wyk say mining companies should take more responsibility for small-scale mining, as historic industry trends are largely responsible for the current situation. A trough in gold prices from the 1990s to the early 2000s led many companies to abandon operations without closing shafts, creating an opportunity for zama activity.

With low prices illegal mining brought in roughly R450 million between 1999 and 2004. When gold prices subsequently skyrocketed, illegal

quickly reopened.

rescue operation in Langlaagte. Elsewhere in sub-Saharan Africa, small-scale mining has found ways to somewhat co-exist with large operations. Zimbabwe grants permits for small gold mining operations and a government entity buys the gold the operations produce. However, Zimbabwe still must contend with barons, similar to South Africa's syndicates, as the artificially low gold price offered by the government cre-

> We work seven we know.



mining became an epidemic. Illegal mining was valued at more than R7 billion last year, according to the Chamber of

According to Lesufi, the Chamber had plans to re-mine waste piles across the Witwatersrand and use the money to close old operations. When the price of gold began increasing, small companies that had abandoned their mines suddenly reappeared, claimed their property once again and put a halt to a plan that had the potential to cut off zama operations.

"When the price is marginal, it creates opportunities for innovative thinking in terms of dealing with the issues. But when the price is very high, it creates opportunities for all sorts of characters to come into the field with short term agendas," Lesufi said.

The Department of Mineral Resources is tasked with managing abandoned mines, but it has been unable to do much. Of the roughly 6 000 abandoned sites, only about 20 have been rehabilitated and about 200 shafts sealed, which zamas

Failing to limit access to abandoned mines, the department's strategy has shifted to increasing sentences for illegal mining from two months to eight years and engaging the African Union to shutter markets. "Once we have dealt with the market, I'm sure we will be closer to ensuring we are successful in dealing with this problem," Minerals Minister Mosebenzi Zwane said at the

ated a black market.

days a week. We have no other job



A child watches a zama zama at work in the Zamimpilo informal settlement on the edge of Johannesburg.



A zama zama pours water through a bucket-turnedsieve onto a "Jameson table" in a Johannesburg informal settlement.

Several Johannesburg-based companies mine gold around the town of Tarkwa, Ghana, where galamsey operators - the Ghanaian name for small-scale miners - have worked for years.

Galamsey are given land on the perimeter of mines that would not be economical if mined by the companies, which in turn buy the gold from the galamsey. Similar agreements exist in Tanzania, as well.

However, the gold in South Africa is much deeper, with mines in the West Rand tunnelling as far as 4km below ground.

This forces zamas to rely on legitimate operations, either by sneaking into operational mines or by digging in already-abandoned ones.

As high arrest rates and failed attempts at mine closure have not slowed illegal gold mining, those involved are searching for alternative

methods to combat the problem. Proposed solutions range from the co-operatives suggested by Van Wyk, to regulated mining on the periphery of large-scale operations such as what exists in Ghana. "The leftover gold is there.

It's not feasible to mine on a large scale," Nhlengetwa said. "No matter how dangerous it may be, (zamas) are actually

making it profitable.



Gold ore confiscated at the abandoned Blyvooruitzicht Gold Mine.