

## FEATURE

## A fistful of poisoned gold

Despite two lethal outbreaks of lead poisoning in northern Nigeria, thousands of people still eke a living digging the underbelly of the earth for gold. They have formed mining clusters which have morphed into lucrative small businesses. ISAAC ANYAOGU visited Shikira, in Niger State, getting over the outbreak of lead poisoning four years ago and found that only better regulation will ensure safer mining and deliver greater value.

Hassan Hussein remembered it like yesterday, toddlers with rheum running down their noses, eyes rolling backwards, lips arched sideways, drooling, and the tears of inconsolable mothers as their children lurched in pain.

"We thought it was witchcraft," 46-year old, Hussein, said. "I prayed that it should take me and spare my child..." he whimpered, fighting to claw back the tears that gradually seep down his eyes.

He watched his one-year old son convulse to death on a dry Harmattan night in 2015. The daughter was spared but with stunted growth and eyes that focus off-kilter, she was scarred for life. It was like a plague; it visited almost every home, and left in its wake, an orgy of tears. Four years later, the wounds still fester, the pain yet to thaw.

"They told us, it was the lead from the gold we mined," Hussein said, pointing to the abandoned office of the Doctors Without Borders/ Médecins Sans Frontières (MSF) who provided the information. They had since packed their gear and left town after completing their mission.

Only weeks after burying his child, Hussein returned to the pits. "I have been doing this all my life. This is all I know."

On a good month, Hussein who is part of a mining cluster earns over N65,000 (\$211). Over a dozen miners form a cluster, sometimes they are up to twenty and earnings vary between N50,000 (\$162) and N70,000 (\$228). Despite the risks, it is still the most lucrative gig in

town, affording them sustenance and paying school fees.

In March 2010, MSF responded to reports of children dying mysteriously in communities across Zamfara state, northern Nigeria. About 400 children had died, and thousands were diagnosed with high levels of lead in their blood.

It was the worst recorded lead poisoning outbreak in history but it was not going to be the last.

For years, many communities in northern Nigeria have been digging the earth and extracting large chunks of rocks which they grind to separate gold fragments found inside them.

But this crude method of mining gold releases high levels of lead and silica dust in the air. This lead particles settle on the soil, on their clothes, in their homes and even in their food. The men came home with their work clothes and their wives use the same kitchen utensils to prepare cornflour to separate sand from gold fragments.

So, five years after the lead poisoning outbreak in Zamfara state was contained, another one occurred in Niger state, following the same pattern, says Benjamin Janero, coordinator, MSF in the state. More than 300 people were affected and 28 children died.

For two years beginning in 2016, MSF worked to contain the threat. It carried out soil remediation, provided healthcare and counselling and promoted safer mining practices through information and tools to reduce exposure to lead and silica dust.

Medical experts say silica dust causes silicosis, lung cancer and is

a significant risk factor for tuberculosis (TB). Lead causes severe neurological deficits and death among children in these communities, but even at low exposure levels is responsible for 674,000 deaths each year primarily due to cardiovascular disease.

Lead particles are mostly airborne, so MSF taught the miners to replace dry operations with wet methods. Miners were taught to implement simple safe measures including washing, showering, setting up separate eating areas and changing out of work clothing before going home at the end of the day.

"Our pilot project demonstrated that low-cost dust control measures were effective at reducing average airborne lead exposures by 95 percent," said Perry Gottesfeld, executive director of Occupational Knowledge International (OK International) whose organization partnered with Doctors Without Borders/ Médecins Sans Frontières (MSF) in this effort.

The primary objective was to reduce lead exposure among artisanal small-scale miners and minimize take home exposures. "We worked cooperatively with miners to provide them with the information and tools to reduce their exposures to lead and silica dust. Together we showed that these efforts minimized contamination and helped save lives," Gottesfeld said.

In addition to significant reductions in airborne lead, a study found that these control measures reduced the smaller respirable silica dust by 80 percent.

A visit to the community shortly



after the team from MSF left along with officials of the Ministry of Mines and Steel Development and another journalist, showed that the threat of death is not enough deterrent for the business of artisanal mining in a community where opportunities are too few and far between.

The five-hour road trip to Shikira community in Rafi Local Government Area of Niger State from Minna, felt like a journey to the end of the world. Three hours into the journey, I understood why only a pickup truck was advised for the trip. What passes as road on the way to Shikira is a terrain of scraggy patchwork of uneven land. We crossed seven streams and our vehicle got stuck in one. The local people came together and pulled it out of quick sand.

In Shikira, only a handful of houses are made with cement, many of the houses have rusty roofing sheets sitting on clay walls - just how squalor would live, if it owned a town.

At the makeshift operations centre of MSF, we could see the intensity of their work and the vacuum they have left. Safer mining messages translated in Hausa, complete with pictures filled the walls.

The clinic that could barely hold

all those requiring care three years ago, was now empty and left in the care of a Bashir, a 28-year-old, who had more enthusiasm than medical skill. He is yet to complete a diploma course in biochemistry.

I feared the lessons from the previous lead poisoning outbreak may soon be lost on the community. We saw local women carrying cooking utensils and pots, spoons and buckets used in their homes to the mining sites.

Officials from the Ministry of Mines and Steel who accompanied us on the visit were horrified. "These are the same buckets, with which they will later get their drinking water!"

But at the ministry head quarters in Abuja the picture is totally different. We were assured that the lessons learnt from safer mining experience will continue long after the departure of MSF. Yet, MSF had not got on their planes when some of the villagers had returned to their old ways.

Ojeka Patrick, department head for small-scale mining at the Ministry of Mines and Steel said, "The plan now is for us to formalize the sector and make the practices safer. This includes a digital cadastre, because about one million people are directly involved in micro-mining, another two million indirectly."

Though this plan has been in the

works for years, it does not look like it could happen soon. Ministry officials say they get so little in the form of allocation



Some local people still violate rules that will ensure safer mining.



Shikira, Niger State.

that they can only manage periodic monitoring activities.

After it became obvious how difficult it would be to formalise the miners, the government introduced a form of certification which artisanal miners are required to obtain after forming clusters and with this certificate they can earn better revenue from selling the gold they had mined through official channels.

However, the ministry cannot even fuel its vehicles to visit these remote locations where artisanal mining is done. So, applicants end up paying for these 'monitoring' trips and predictably they get certified while they continued with unsafe practices.

While there is a boom in artisanal mining, the same cannot be said of formal mining. The ministry, last year, revoked the licenses of 155 holders mainly because they did not put them to use.

#### Lucrative enterprise

According to the non-profit Publish What you Pay Nigeria, the exploration of minerals in Nigeria by the artisanal method has occurred for over 2400 years from mining basic clays to base metals and gold. There are thousands of artisanal mining sites in Nigeria and government officials say over one million people are directly involved and another one million

engaged indirectly.

It is often difficult to get accurate data around the sector because, "the sales channel is largely unofficial and embedded with smuggling and distribution cartels leading to loss of revenue from taxes, loss of revenue from royalties, exposure of miners to uncontrolled risks, uncontrolled and non-systematic evacuation, resulting in environmental degradation, erosion and excessive pollution, amongst other negative effects," the group said in a newsletter.

While an ounce of gold sells above \$1475, artisanal miners are paid less than a third of what an ounce of gold is sold in the international market.

But it is a back-breaking task. Artisanal miners dig pits removing the top soil. The stones are collected and packed in a sack (100kg) to the crushing machine. Each sack is crushed and grinded smooth by the smoother machine for a fee of about N5,000 (\$16).

The smoothed powder is taken to the river where it is crudely filtered or some collect water in a big container using a wooden pallet on which is a rug carpet that retains the gold. This is called washing, both males and females engage in it. Mercury is then applied to coagulate the gold together and finally; it is cleaned up and ready for sale. However, the bulk of the money from this operation goes to middlemen. Kabir Mohammed Kankara national president of the Miners Association of Nigeria, said a lack of functioning buying centres means that artisanal miners do not get the full value of their toil. Negotiations are conducted informally and many are short-changed.

"The biggest challenge for artisanal miners is lack of capital to scale their production" says Kankara. Though the government has provided a fund, operators say the conditions are too stringent. Unlike the oil sector where obtaining a licence is enough collateral to obtain loans, financial institutions do not accept the same security from miners.

Last year, the Economic and Financial Crimes Commission (EFCC), an anti-corruption body seized about N1.12 billion (\$3.6 million) worth of gold about to be smuggled abroad through the Abuja airport to Dubai, United Arab Emirates uncovering a syndicate of smugglers including

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Inside the clinic set up to treat patients affected by lead poisoning



Safer Mining information center

foreigners.

Kayode Fayemi, former minister of Mines and Steel Development, lamented that in 2017 Nigeria lost about \$9 billion in two years due to illegal mining. The sector contributed N3.5 billion (\$11.6 million) to national revenue according to the minister.

An analysis of Nigeria's mining sector shows that its contribution to the GDP in 2015 stood at 0.33 percent down from 4.5 percent in the 1970s. Nigeria's oil boom led to a neglect of other viable sectors including mining.

#### Deeper reforms

The Nigerian government seems more willing to reform the sector. It has registered 1,346 Artisanal Mining cooperatives to prepare them to access small-scale mining licences. Each of the 1,346 mining cooperatives comprise over 10 members; with additional 20 mine workers for each cooperative.

According to Olamilekan Adegbite, Nigeria's minister of Mines and Steel Development, the Federal Government has identified 1,759 mining sites across the country. He said the government is seeking formalise the sector so it can deliver greater value to the country.

Some miners across Nigeria have begun to scale up their operations and transformed to small-scale mining firms operating with valid mineral titles. The ministry has issued registration certificates to 252 mineral buying centre operators to help artisanal miners access formal markets. This is expected to double what they currently earn.

The government has partnered with the Bank of Industry to create the Nigerian Artisanal and Small-Scale Mining Financing Support Fund, where artisanal miners can access N10million credit facility with concessionary five percent interest rate and N5billion fund for bigger operators.

It is automating licenses and permits and issuing Environmental Impact Assessment (EIA) certificates to mining companies. It has also created a regulatory compliance handbook and operational guidelines and seek to outlaw child labour in mining operations.

Much of these reforms are yet to be firmly established in Shikira, but these are the kinds of actions that will prevent another lead poisoning outbreak in Nigeria.



Hassan with little Aisha