

**NEW
 EXTRACTION
 SUBSTANCE**

For ages, Uganda has been battling mercury use, especially in gold mines, without offering alternatives. Although punitive measures have been introduced against its use, many artisanal miners still manage to smuggle mercury into the mines. However, some have found an alternative to mercury, writes **Martin Kitubi**

It is white and crystal clear as table salt, but it is not the popular flavouring. This is borax, a substance now in high demand as miners hunt for gold.

The substance, which until recently was alien to artisanal gold miners, is increasingly becoming the 'new mercury'.

Recently, *New Vision* met Jalia Zabibu, 43, a gold miner and chairperson of the Mubende Women Gold

LOCAL ARTISANAL GOLD MINERS ABANDON MERCURY FOR BORAX

PHOTO BY SHAMIM SAAD



Artisanal miners panning for gold in Mubende district recently. Miners who use mercury to extract gold come into contact with the toxic metal using their bare hands

After the gold ore has been mined from the pits, they are crushed and milled when still wet. From this stage, the gold sand is

COST: BORAX VS MERCURY
 Borax has a comparative advantage over mercury on many fronts, including the price.

(NEMA) spokesperson, said the environmental body continues to discourage

miners from using mercury. "For environmental safety, NEMA recommends borax

use. Borax is safe," she said.

WHAT STAKEHOLDERS SAY
 Winnie Ngabirwe, the executive director of Global Rights Alert, said the country had been advocating mercury-free gold mining for a long time. However, not many options were available for use. Now that miners have learnt about and used borax, she said, this is the best time to ask them to move away from mercury.

DANGERS OF MERCURY USE
 A recent study on the health and ecological implications of mercury use in the artisanal gold extraction process, which was done by Ugandan researchers, revealed that mercury is extremely dangerous.

The study was conducted by Herberti Nabaasa from Mbarara University, Willy Ngaka and Epiphany Picho from Makerere and Muni universities respectively.

The trio indicated that the amount of vapour released by mining activities has been proven to damage the kidneys, liver, brain, heart, lungs, colon and immune system.

Miners Association.

She was carrying a white 400g tin with a substance. Zabibu said the substance was bought about a year and a half ago and that it has worked on several trucks of gold sand.

"As Mubende gold miners, we have moved away from mercury use. Borax is the new thing for us," she said.

Olivia Chebet, a gold miner from Moroto under the Karamoja Women's Association, also said they have stopped using mercury in gold extraction.

The group, she said, is switching to borax.

"In Karamoja mines, when they get you with mercury, you may not like the consequences. The penalties are punitive. You risk being suspended indefinitely over using mercury," Chebet said.

The two made the remarks during the International Day of Women in Mining commemoration last week at Streamside Recreation Centre in Buwate, Kiira municipality in Wakiso district. The celebrations were organised by Global Rights Alert.

HOW BORAX WORKS

The purpose of borax is similar to that of mercury. However, the stages of application change for borax.

While using borax in the extraction of gold, the process is shorter compared to when using mercury.

then rinsed, in a process called sluicing to form a concentrate.

The gold sand is then panned without using mercury, before it is mixed with borax and heated. During heating, the borax will then attract gold into small particles for collection.

Zabibu said the whole process can take a day compared to when mercury is used.

Using mercury for extraction, she said, depends on the weather. It can take even a week in drying the gold sand during the rainy season.

If the miner is to use mercury, the ore is crushed and later dried before the it is sent for milling.

She added that the machines used for milling produce dust, which also presents respiratory risks to the miners.

After the milling process, the sand is then sluiced and the concentrate is added to mercury during panning.

It is from this process that a mercury-gold amalgam is burnt to extract the gold. In the process, the mercury evaporates, which has several risks.

"The procedure of using mercury is deadly, especially for women. Remember, we touch it directly and that means we expose ourselves to cancer," Zabibu said.

In addition, using borax in gold extraction produces more pure gold, whereas mercury leaves impurities. Zabibu said a tin of 400g of borax costs between sh55,000 and sh60,000. This, she added, can be used by a miner for at least two years.

A gramme of borax can mix between 15 and 18 Elf trucks of gold sand. On average, an Elf truck has a maximum load of 2,000kg. This implies that a gramme of borax can mix between 30,000-36,000kg of gold sand.

Compared to mercury, Zabibu said borax is more affordable. The price of a bottle top of mercury ranges between sh250,000 and sh300,000. This amount can mix about three to seven Elf trucks of gold sand.

This implies that a bottle top of mercury can mix between 6,000-14,000kg of gold sand and yet it is expensive.

"Borax is cheaper and equally effective. Since we are artisanal and small-scale miners, we have switched to borax. The output is much more," she said.

"People were using mercury because it is easy and faster. But after using borax for at least a year and a half, we can confirm, borax is a better alternative."

NEMA RECOMMENDATION

Naome Karekaho, the National Environment Management Authority