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WATCH

## A HEAVY PRICE: LEAD POISONING AND GOLD MINING IN NIGERIA'S ZAMFARA STATE

Photographs by Marcus Bleasdale/VII for Human Rights Watch



A boy in a compound in Bagega, Zamfara State, Nigeria. Many families processed ore in their compounds, crushing and grinding the rocks in their homes. Because of the lead poisoning, most families have stopped processing in their homes and the operations have been moved a short distance from the village. Some walls in these compounds are made with sediment from a nearby pond that is likely highly contaminated with lead from nearby ore processing. These walls contaminate the compound with lead over time.



Since 2010 ongoing, widespread, acute lead poisoning in Zamfara state has killed at least 400 children. Considered the worst outbreak of lead poisoning in modern history, more than 3,500 affected children require urgent, life-saving treatment. Less than half are receiving it. Among adults there are high rates of infertility and miscarriage.

Left: The mother of this child lost two of her four children to lead poisoning.

Zamfara is a mineral-rich state, with significant deposits of gold. The acute lead poisoning in Zamfara is a result of artisanal gold mining: small scale mining done with rudimentary tools. Miners crush and grind ore to extract gold, and in the process release dust that is highly contaminated with lead. Children in affected areas are exposed to this dust when they are laboring in the processing site, when their relatives return home covered with dust on their clothes and hands, and when the processing occurs in their home. Children are also exposed to this highly toxic lead in contaminated water and food sources.



Right: A woman grinds grain in a mortar and pestle while her child plays. Testing showed that the level of lead in her home is 23,000 parts per million. The safe level of lead is below 400 parts per million.



International partners, in cooperation with the Zamfara state government, have treated 1,500 children and cleaned up 7 villages contaminated with lead. But there are thousands of children who still need treatment and thousands more who continue to be at risk for acute lead poisoning because their villages remain contaminated. In Bagega, the largest and most contaminated village, environmental remediation and the implementation of safer mining practices to prevent recontamination are urgently needed and must be put in place before comprehensive treatment can be provided for children. The Zamfara state government has started remediation in Bagega, but it lacks the resources necessary for an urgent comprehensive response.

Left: A child takes a sheep to the pond to wash. Experts believe the pond is highly contaminated with lead from ore-processing that previously took place adjacent to this water source. The children bathe in the pond, wash their clothes and water their flocks of sheep and herds of cattle, creating additional routes of lead exposure.



Men and children work in the mines outside of Bagega. They dig deep to find the rock and then crush these rocks to find the gold ore. Inside the rocks are deposits of other metals, including lead, which has poisoned many of the children in the village.



The Zamfara state government and the Federal Government of Nigeria are obligated under international law to protect the right to health for children. In 1993 Nigeria became a party to the International Covenant on Economic, Social and Cultural Rights, which obligates it to “protect the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”

The Committee on Economic Social and Cultural Rights interprets the right to health as “an inclusive right, extending not only to timely and appropriate health care, but also to the underlying determinants of health, such as access to safe and potable water and adequate sanitation, an adequate supply of safe food, nutrition and housing, healthy occupational and environmental conditions, and access to health-related information and education.” Additionally, the Convention on the Rights of the Child, which Nigeria ratified in 1991, obligates states to ensure to the maximum extent possible the survival and development of the child.

Left: A young boy sits on a stack of ore sacks in the mining processing site in Bagega village.



Children work in the processing site in Bagega.



The Convention on the Rights of the Child also seeks to protect children from work that is likely to be hazardous or harmful to the child's health or physical, mental development. International Labor Organization Convention No. 182, which is binding on Nigeria, prohibits the worst forms of child labor, including work in an unhealthy environment that exposes children to hazardous substances.

Left: A mineworker crushes rocks in a flour grinder. The dust is highly toxic and many adults suffer the effects of lead poisoning, ranging from swelling, dizziness and vomiting to organ failure, infertility and death.

Below: A mineworker takes a nap next to dust from freshly ground rock.





**IN COOPERATION WITH INTERNATIONAL PARTNERS, THE NIGERIAN GOVERNMENT should expeditiously begin to:**

- Implement safer mining practices in Zamfara and Nigeria more generally.
- Conduct environmental remediation in affected areas.
- Test and treat all children at risk for lead poisoning.

The price of gold has risen since the global financial crisis.



Front cover: A child works in the processing site in Bagega, Nigeria. Over 500 children have died in the region due to lead poisoning. Seven villages in the region have been cleaned, but Bagega is still highly contaminated.

Above: Children bathe in a pond likely highly contaminated with lead.  
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