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## TOXIC TOIL

Child Labor and Mercury Exposure in Tanzania's Small-Scale Gold Mines



## **Toxic Toil**

**Child Labor and Mercury Exposure in  
Tanzania's Small-Scale Gold Mines**

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# Toxic Toil

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# Map of Gold Mining in Tanzania



-  Main gold mining regions
-  Districts where Human Rights Watch conducted research

Map source: Deborah Fahy Bryceson et. al., "Unearthing Treasure and Trouble: Mining as an Impetus to Urbanisation in Tanzania," *Journal of Contemporary African Studies*, Vol. 30 (4) (October 2012), p. 637

## Key Terms

Amalgamation	The process of mixing and merging ground gold ore and mercury
Artisanal and Small-Scale Gold Mining	Small groups of people engaged in low-cost, low-tech, labor-intensive excavation and processing of gold
Biomonitoring	The process of measuring human exposure to chemicals
Due diligence	The process of evaluating details before making a business decision; the care a person or organization takes to avoid harm
Formalization	The licensing and regulation of small-scale gold mining
Licensed mine	A legal, formal, small-scale mine with an owner who holds a Primary Mining License
Mercury abatement	The process of reducing mercury use and exposure
Mercury intoxication	Poisoning caused by mercury
Methylmercury	A toxic compound of mercury that tends to accumulate in fish
Ore	A naturally occurring material from which a metal or other valuable mineral can be extracted
Orphan	A child that has lost one or both parents
Primary Mining License	A mining license authorizing Tanzanian citizens and specific corporations to mine an area of 10 hectares for 7 years
Retort	A device that captures harmful mercury vapor
Unlicensed mine	An illegal, informal, small-scale mine that operates without a Primary Mining License

## Summary and Key Recommendations



# TOXIC TOIL

Child Labor and Mercury Exposure in Tanzania's Small-Scale Gold Mines

A gold processing site in Mbeya Region.  
© 2013 Janine Morna/Human Rights Watch





Four-year-old girl plays in an amalgamation pond contaminated with mercury while adults process gold at a gold rush site in Shinyanga Region.

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**Rahim T. is a small, soft-spoken, 13-year-old boy who lives with his aunt in a village in Chunya district in southern Tanzania. His father died and his mother lives in a larger town in the same district. Rahim T. started working on mining sites over the weekends and during the school holidays, around the age of 11, because he was sometimes left at home alone without enough money or food to eat. He told Human Rights Watch, “My parents were not present at home. I saw my friends going there. I was hungry and in need of money so I decided to go there.”**

Rahim T. uses mercury, a highly toxic silvery liquid metal, to extract the gold at home. He mixes roughly half a tablespoon of mercury with ground gold ore. He then stands a few meters away from an open flame where he burns the gold-mercury amalgam on a soda cap for about 15 minutes, releasing dangerous mercury vapor into the environment. Until our interview, no one had ever told him mercury can cause serious ill-health, including brain damage, and even death.

Soon after Rahim T. started mining, he was involved in a pit accident:

*I was digging with my colleague. I entered into a short pit. When I was digging he told me to come out, and when I was about to come out, the shaft collapsed on me, reaching the level of my chest ... they started rescuing me by digging the pit and sent me to Chunya hospital.*

The accident, Rahim T. told Human Rights Watch, knocked him unconscious and caused internal injuries. He remained in the hospital for about a week and still occasionally feels pain in his waist when he sits. After the accident, he was scared of returning to the pits, but he felt he had no choice, explaining: “Whenever my aunt travels is when I go, because I need something to sustain myself.”

Mining, the type of work described by Rahim T., is one of the most hazardous forms of child labor. Thousands of children in Tanzania, some as young as eight years old, risk serious injury and even death from work in this industry. Many children, especially orphans, lack basic necessities such as food, clothing, and shelter, and seek employment to support themselves and their relatives.



A miner lowers down a deep pit by holding onto a rope in a small-scale mining site in Mbeya Region.

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This report examines child labor and exposure to mercury in small-scale gold mining in Tanzania, Africa's fourth-largest gold producer. It documents the harmful effects of mining on children, including its impact on the enjoyment of their rights to health, education, and protection from violence and abuse. The report focuses on hard rock mining, whereby small-scale miners remove and process rocks from pits to extract the ore. Human Rights Watch conducted research in Chunya district (southern Tanzania), in Geita and Kahama districts (northwestern Tanzania), and in the cities of Dar es Salaam, Mwanza, and Mbeya.

Small-scale gold mining is labor-intensive and requires little technology. Mining operations in Tanzania typically involve people who control the mine, pit holders (who lease pits from the people who control the mine), and workers, including children.



Children are involved in every phase of the mining process. They dig and drill in deep, unstable pits during shifts of up to 24 hours. They transport heavy bags of gold ore and crush the ore into powder. After concentrating the gold further, children mix the powder with mercury and water in a pan. The mercury attracts the gold particles, creating a gold-mercury amalgam. Children burn the amalgam to evaporate the mercury and recover the gold. Children who work in mining are exposed to serious health risks, including: accidents in deep pits, injuries from dangerous tools, respiratory diseases, and musculoskeletal problems.

Mercury poses a threat to children and adults who work in mining, as well as to surrounding communities. Miners, including children, risk mercury poisoning from touching the mercury and breathing the mercury vapor. People who live in mining areas may also be exposed to mercury when

Miner holds basin with mercury to mix with ground gold ore at a gold rush site in Shinyanga Region.

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A 13-year-old boy digging and lifting gold ore and other rocks at a small-scale mining site in Mbeya Region.

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A 13-year-old boy, who mines gold, attends classes in a small-scale mining area in Mbeya Region. Work in mining impacts children's performance and attendance at school.

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community or family members process the gold at home, or from eating mercury-contaminated fish from nearby rivers. Mercury attacks the central nervous system and can cause developmental and neurological problems. It is particularly dangerous to fetuses and infants, because their young bodies are still developing. Most adult and child miners are unaware of the grave health risks connected to the use of mercury.

Girls on and around mining sites in Chunya and Kahama districts face sexual harassment, including pressure to engage in sex work. As a result, some girls become victims of commercial sexual exploitation and risk contracting HIV and other sexually transmitted infections.

Children who work in mining sometimes miss out on important educational opportunities and experiences. In some cases, mining causes children to skip classes or drop out of school. It can also impact students' time and motivation for study.

This report also examines how gold traders may contribute to child labor in mining. Small traders purchase gold directly



at the mines or in mining towns—including from children—and sell it to larger traders. Sometimes the gold passes through several intermediaries before reaching the largest traders who export gold. The top destination for artisanal gold from Tanzania is the United Arab Emirates (UAE); gold is also exported to Switzerland, South Africa, China, and the United Kingdom.

Under international and domestic law, the Tanzanian government is obligated to protect children from violations of their rights, including the worst forms of child labor such as mining and commercial sexual exploitation. Tanzania should provide free primary education and make secondary education, including vocational training, available and accessible. The government should also take measures to avoid occupational accidents and diseases, and reduce the population's exposure to harmful substances. Scientific evidence shows that mercury is a harmful substance.

While the Tanzanian government has taken some important steps to reduce child labor and mercury exposure in gold

Two 13-year-old boys dig for gold ore at a small-scale mine in Mbeya Region.

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A miner holding a small piece of gold ore at a small-scale mining site in Mbeya Region.

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A boy holds his tool to crush gold ore at a gold rush site in Shinyanga Region.

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mining, it has failed to adequately enforce its child labor laws and address some of the socioeconomic problems contributing to child labor.

In June 2009, the Tanzanian government launched the National Action Plan on the Elimination of Child Labour. Under its mining, child protection, and employment laws, the government also prohibits children under the age of 18 from engaging in hazardous work, including mining. Occasionally government officials inspect mines for child labor.

Despite these positive actions, the government's 2009 child labor action plan remains unimplemented, its child labor inspection process is flawed, and key ministries are failing to prioritize and devote resources to enforce child labor laws.

The Ministry of Labour and Employment is the lead ministry on child labor, but it has taken limited action to counter child labor in mining. Its labor officers rarely, if ever, visit licensed small-scale mines for child labor inspections, and virtually never conduct child labor inspections on unlicensed, informal mines—the majority of sites. The Ministry of Energy and Minerals is also failing to carry out its responsibilities under the mining regulations, which authorize mining officials to order mining license holders who have hired children to pay a fine or take remedial action. Both ministries lack adequate staff and means to visit remote mining areas. When labor or mining officials did carry out child labor inspections, they sent younger-looking children away from the mines, but did not properly assess the ages of older children or follow up to support the children's transition out of child labor. Mining officials often prioritized revenue collection and other health and safety issues over child labor when visiting licensed and unlicensed mines. Both ministries seldom penalized employers who hired children.

The government has also failed to adequately address some of the underlying socioeconomic causes of child labor. In particular, the government provides too little support to orphans and other vulnerable children, many of whom seek employment in mining to cover their basic needs. Moreover, weaknesses in the education system indirectly contribute to child labor. In particular, despite the official abolition of school fees through the 2002-2006 Education Development Plan, schools sometimes request illegal financial contributions, prompting students whose parents are unable to pay such expenses to either seek additional income on the mines or to drop out of school. Also, many children across Tanzania do not transition from primary to secondary or vocational school and start full-time work in sectors such as mining. This is partly because of the cost of attending secondary school and limited vocational training opportunities.

The threat of mercury is recognized by Tanzania, but its use in small-scale mining continues unabated. Tanzania has laws and institutions in place to regulate the mercury trade and



A girl carrying her mining tools at a gold rush site in Shinyanga Region.

© 2012 Janine Morna/Human Rights Watch



Two boys crush gold ore on a gold rush site in Shinyanga Region.

© 2012 Juliane Kippenberg/Human Rights Watch.





Two 13-year-old boys and one 15-year-old boy pour crushed gold ore over a sisal sack to concentrate the particles of gold at a processing site in Mbeya Region.

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promote safer mercury use in mining. In 2009 the government developed a National Strategic Plan for Mercury Management, which includes strategies to raise awareness on the hazards of mercury and introduce mercury-free technology to extract gold. Under the mining regulations, an owner of a licensed mine must use a retort—a device that captures harmful mercury vapor—and provide employees with protective gear. The government also requires those who intend to import, export, transport, store, and deal in chemicals to register specified quantities of mercury with the Chief Government Chemist. By controlling the flow and use of mercury in the country, the government can incentivize miners to explore alternative gold extraction methods.

However, the government has done little to put these laws and policies into action. It almost never enforces the regulations that require the registration of mercury for small-scale gold mining or the use of retorts and protective gear on mining sites. It has also failed to launch the Mercury



Management Plan and to devise a health sector response to mercury poisoning.

Donors, United Nations agencies, international financial institutions, and civil society organizations play an important role in assisting poorer nations to fulfill their obligations under international law. These groups have taken some steps to support initiatives on child labor, mercury use, and mining generally, but only a handful of donor initiatives specifically address child labor or mercury use in small-scale gold mining. Some programs, such as the World Bank's Sustainable Management of Mineral Resources Project (SMMRP), which supports Tanzania's small-scale miners, could potentially do more to target child labor in small-scale gold mining.

Businesses, under international law and other norms, also have a responsibility to identify, prevent, mitigate and account for the impact of their activities on human rights, and to adequately address abuses connected to their operations. Gold traders in Tanzania who were interviewed for this report lacked specific due diligence procedures to avoid supporting

A 17-year-old boy mixes mercury and ground gold ore at a gold processing area in Mbeya Region.

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Miners mixing mercury and ground gold ore in an amalgamation pond in Geita Region.  
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A miner holds processed gold at a small-scale mining site in Mbeya Region.  
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unlawful child labor. Meanwhile, international standards for human rights due diligence have largely focused on due diligence for “conflict gold”—gold which benefits conflict parties and hence contributes to armed conflict. As a result, companies have done less to prevent supply chains from becoming entangled with suppliers who exploit unlawful child labor.

Ending child labor in gold mining requires the government, UN agencies, donors, artisanal miners, gold traders, and companies to prioritize and fully support its elimination. Failure to act places children at risk of serious injury or death and may destroy their educational opportunities. Additionally, failure to limit the use of mercury may cause devastating health and environmental effects for both children and adults.



Gold processing at a trader's workshop  
in Geita Region.

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# KEY RECOMMENDATIONS

## TO THE TANZANIAN GOVERNMENT

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### *CHILD LABOR*

- Instruct mining and labor officials to regularly inspect and withdraw children from mining work on licensed mines and impose penalties on those who employ child labor. Government measures must respect human rights and should not lead to retribution or severe punishments;
- Instruct labor officers to inspect unlicensed mines. If mining officials informally visit an unlicensed mine, they should remind employers of child labor laws, encourage them to comply, and request the Ministry of Labour and Employment to conduct further inspections and, where necessary, impose penalties;
- Instruct labor officers, social welfare officers, and parasocial workers to identify and protect girls who work in mining from sexual abuse;
- Conduct awareness-raising and outreach activities on the hazards of child labor in mining;
- Support orphans and other vulnerable children by, for example, implementing the National Costed Action Plan on the Most Vulnerable Children and expanding the Tanzania Social Action Fund which provides grants and conditional cash transfers to vulnerable populations;
- Instruct district officers to investigate and eliminate illegal primary school fees to ensure they do not thwart access to education in mining areas;
- Increase access to post-primary education in mining areas by allowing children to retake the Primary School Leaving Examination and compete for a place at a secondary school and by increasing opportunities for vocational training;
- Strengthen and intensify efforts to formalize the artisanal and small-scale gold mining sector without engaging in a mass clampdown on unlicensed mining activity;
- Explicitly address child labor and mercury exposure in current efforts to promote the development and professionalization of artisanal mining, including through the government-led Strategy to Support Artisanal and Small-Scale Mining Development and the Multi-Stakeholder Partnership between the government, World Bank, Anglo-Gold Ashanti, and African Barrick Gold.

### *MERCURY EXPOSURE*

- Urge an immediate end to mercury use by anyone under age 18 as part of broader efforts to raise awareness and enforce safe mining practices and to promote mercury-free alternatives;
- Develop a health response to address mercury exposure and poisoning in artisanal mining communities, with a focus on child health, including by revising and launching the National Strategic Plan on Mercury Management.

## **TO DONOR COUNTRIES, THE WORLD BANK, AND RELEVANT UN AGENCIES**

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- **Provide financial, political, and technical assistance to address child labor and mercury exposure in mining, including through programs on artisanal mining.**

## **TO TANZANIAN AND INTERNATIONAL COMPANIES TRADING IN ARTISANAL GOLD**

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- **National and international companies buying gold from Tanzania’s small-scale gold mines should have due diligence procedures in place to ensure that their supply chains are free from child labor. If child labor is found, companies should work with their suppliers to end child labor in the supply chain within a defined timeframe and cease working with suppliers who are unable or unwilling to comply.**

## Methodology

This report examines child labor and mercury exposure in small-scale gold mining in Tanzania. It documents the harmful effects of mining on children, including its impact on the enjoyment of their rights to health, education, and protection from violence and abuse. It focuses on hard rock mining, whereby small-scale miners remove and process rocks from pits to extract the ore.

Human Rights Watch chose to focus on Tanzania because it is one of Africa's largest gold producers and it has a substantial small-scale gold mining community. Despite previous interventions by the International Labour Organization (ILO) and the United Nations Industrial Development Organization (UNIDO), child labor and mercury use are still prevalent in small-scale gold mining in Tanzania.

Human Rights Watch conducted research in October and December 2012 in mining areas in northwestern and southern Tanzania, and in the cities of Dar es Salaam, Mwanza, and Mbeya. Tanzania has roughly 12 gold mining regions and researchers visited 11 mining sites in 3 of these areas: Geita district (Geita region), Kahama district (Shinyanga region), and Chunya district (Mbeya region) (see map). Human Rights Watch focused on these areas because of their geographic diversity and large artisanal gold mining communities.

Human Rights Watch interviewed over 200 people, including 80 children between the ages of 8 and 17 working in artisanal gold mining areas. Of these 80 children, 61 were directly involved in the gold mining process (48 boys and 13 girls). Another 13 (7 boys and 6 girls) did other jobs on the mines such as selling wood, food, water, and coal; and six girls engaged in sex work near the mines. Researchers also spoke to four young adults between the ages of 18 and 20 who were working in gold mining. At least 20 of the children interviewed were orphans. Human Rights Watch selected the children who work in mining randomly on the mining site or at a nearby school. A nongovernmental organization (NGO) helped researchers to identify children engaged in sex work near the mines.

Human Rights Watch interviewed a wide range of other individuals in mining areas, including parents and guardians of child laborers, adult miners, representatives of regional miners' associations, teachers and principals, health workers and health experts,

village authorities, local government officials, NGO activists, and gold traders. In addition, Human Rights Watch researchers met with representatives of United Nations agencies, donor governments, and a large-scale mining company.

Researchers interviewed representatives of the Ministry of Labour and Employment, the Ministry of Energy and Minerals, the Ministry of Education, the Ministry of Health and Social Welfare (specifically the Social Welfare Department and the Government Chemist Laboratory Agency), the Ministry of Community Development, Gender, and Children, and the Environmental Division of the Vice President's Office. Outside of Tanzania, Human Rights Watch interviewed several international experts on small-scale gold mining, mercury use, and the health effects of mercury. Researchers also met with gold trading and refining companies in Switzerland and Dubai. No inducement was offered to or solicited by the interviewees.

Where possible, Human Rights Watch carried out interviews with children in a quiet setting, somewhere near the mining site or in a school classroom, without others present. All children were informed of the purpose of the interview, its voluntary nature, and the ways the information would be used. Each orally consented to the interview. Because of the difficulty of maintaining privacy on large mining sites, some interviews were conducted in the presence of a few adult miners and other children. Researchers interviewed the girls engaged in sex work in small focus groups in Mbeya and Chunya town. Human Rights Watch adapted the length of the interview and complexity of the questions to the age and maturity of each child. Interviews with children under the age of 10 did not last longer than 20 minutes, while those with older children took up to 90 minutes. The interviews were semi-structured, and not all children were asked the same questions.

In addition to these interviews, Human Rights Watch carried out desk research, consulting a wide array of written documents from the Tanzanian government, UN agencies, NGOs, media, academia, privately owned international companies, and other sources.

In this report, “child” and “children” are used to refer to anyone under the age of 18, consistent with usage under international law. The names of all children have been replaced with pseudonyms to protect their privacy and to preclude any potential retaliation. In several instances Human Rights Watch has also withheld the name of some adult interviewees for security reasons.

Most interviews were conducted in Swahili, the main language of Tanzania, through the help of an interpreter. Some of the interviews in Kahama district were conducted in Sukuma.

One challenge during this research was the assessment of children's ages. Some children did not know their exact age. Researchers only classified interviewees as children when this was clearly indicated by the interviewees' own assessment and physical appearance.

# I. Background: Artisanal Gold Mining, Mercury Use, and Child Labor in Tanzania

## Artisanal and Small-Scale Gold Mining in Tanzania

“Artisanal” and “small-scale” gold mining refers to small groups engaged in low-cost, low-tech, labor-intensive excavation and processing of gold.<sup>1</sup> According to the United Nations Environmental Programme (UNEP), the global artisanal gold mining sector produces an estimated 15 percent of the world’s gold (approximately 400 tonnes) and employs 90 percent of the global gold mining workforce—around 10 to 15 million miners, including children.<sup>2</sup>

In 2011, Tanzania was the fourth largest gold producer in Africa.<sup>3</sup> Roughly 5 percent of Tanzania’s gross domestic product and one-third of its exports come from mining.<sup>4</sup> Experts estimate that around 10 percent of the country’s gold comes from small-scale mining, a number which continues to grow in response to rising gold prices and limited alternative sources of income.<sup>5</sup> The remainder of the gold is produced by medium and large-scale mining companies. In 2011, Tanzania earned US\$2.1 billion in mineral exports, of which more than 95 percent came from six gold mines.<sup>6</sup> According to government figures, there are more than 800,000 small-scale gold miners,<sup>7</sup> thousands of whom are children.<sup>8</sup>

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<sup>1</sup>United Nations Environmental Programme (UNEP), “Analysis of Formalization Approaches in the Artisanal and Small-Scale Gold Mining Sector Based on Experiences in Ecuador, Mongolia, Peru, Tanzania and Uganda,” September 2011, [http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/ASGM/Formalization\\_ARM/Case%20Study%20Tanzania%20June%202012.pdf](http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/ASGM/Formalization_ARM/Case%20Study%20Tanzania%20June%202012.pdf) (accessed February 26, 2013), p. 4; Deborah Fahy Bryceson and Jesper Bosse Jønsson, “Tanzanian Artisanal Gold Mining: Present and Future,” (paper presented at the Britain-Tanzania Society Seminar, School of Oriental and African Studies, London, March 15, 2012), [http://www.btsociety.org/app/images/events2012/mining\\_deborah\\_bryceson.pdf](http://www.btsociety.org/app/images/events2012/mining_deborah_bryceson.pdf) (accessed February 26, 2013), p. 1.

<sup>2</sup>UNEP Global Mercury Partnership, “A Practical Guide: Reducing Mercury Use in Artisanal and Small-Scale Gold Mining,” June 2012, [http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/ASGM/Techdoc/UNEP%20Tech%20Doc%20APRIL%202012\\_120608b\\_web.pdf](http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/ASGM/Techdoc/UNEP%20Tech%20Doc%20APRIL%202012_120608b_web.pdf) (accessed February 27, 2013), p. 68.

<sup>3</sup>Ministry of Energy and Minerals, Tanzania Minerals Audit Agency, “Annual Report,” 2011, [http://www.tmaa.go.tz/uploads/TMAA\\_Annual\\_Report\\_2011F.pdf](http://www.tmaa.go.tz/uploads/TMAA_Annual_Report_2011F.pdf) (accessed March 24, 2012), p. 16.

<sup>4</sup>Revenue Watch Institute, “Resource Governance Index, Tanzania,” 2013, <http://www.revenuewatch.org/sites/default/files/countrypdfs/tanzaniaRGI2013.pdf> (accessed June 24, 2013), p. 1.

<sup>5</sup>UNEP, “Analysis of Formalization Approaches,” p. 4.

<sup>6</sup>Revenue Watch Institute, “Resource Governance Index, Tanzania,” p. 1.

<sup>7</sup>Tanzania Ministry of Energy and Minerals, “Small-Scale Gold Statistics for Human Rights Watch,” October 2012 (on file with Human Rights Watch).

<sup>8</sup>See a 2002 International Labour Organization (ILO) report which indicated that in just three villages, up to 400 children were involved in small-sale mining in the highest season (the school holiday period). ILO-IPEC, “Investigating the Worst

Despite Tanzania's gold wealth, the country is poor. The 2011 Human Development Index, which measures health, education, and income, ranked Tanzania as 152<sup>ND</sup> out of 187 countries.<sup>9</sup> About 67.9 percent of the population lives below the international poverty line of US\$1.25 per day.<sup>10</sup>

## The Mining Process

In hard rock mining, the focus of this report, small-scale miners remove the rocks from pits and process them on the mining site, in processing areas, or at home, to extract the ore.<sup>11</sup>

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Forms of Child Labor No. 15, Tanzania, Children Labour in Mining: A Rapid Assessment," January 2002, <http://www.ilo.org/ipceinfo/product/viewProduct.do?productId=1259> (accessed March 25, 2013), p. x.

<sup>9</sup> "Tanzania International Human Development Indicators," United Nations Development Program (UNDP), accessed February 28, 2013, <http://hdrstats.undp.org/en/countries/profiles/TZA.html>.

<sup>10</sup> "International Human Development Indicators, MPI: Population living below \$1.25 PPP per day (%)," UNDP, accessed February 28, 2013, <http://hdrstats.undp.org/en/indicators/38906.html>. This statistic is from 2007.

<sup>11</sup> Ore is a naturally occurring material from which a metal or other valuable mineral can be extracted.

## THE MINING PROCESS

The diagram below describes the typical process of extracting gold on a small-scale gold mine.



### Digging

First the miners remove rocks from pits up to 70 meters deep and carry them to a processing area either walking distance or a bicycle or car ride away.



### Crushing

Then they or other workers crush the ore into pebbles and use a device called a ball mill—the large cylindrical machine seen on the left—to ground the pebbles into powder.



### Sluicing

Miners concentrate the gold by pouring water over the powder and passing it through a sluice box: an inclined trough typically lined with sisal sacks or another material that captures gold particles\*. Then they rinse the accumulated particles out of the sacks into a barrel or pan.



### Amalgamation

In order to separate the gold from the remaining dirt and other minerals, miners use mercury, a toxic metal, to retrieve the gold. Using their bare hands, they swirl and mix roughly half a tablespoon of mercury, the gold powder captured in the sisal sacks, and water in a pan until the mercury has attracted the gold particles, creating a gold-mercury amalgam.



### Burning the Amalgamation

Miners then burn the amalgam to evaporate the mercury and recover the gold.

\* Jesper Bosse Jönsson, Peter W.U. Appel, and Raphael Tihelwa Chibunda, "A Matter of Approach: the Retort's Potential to Reduce Mercury Consumption within Small-Scale Gold Mining Settlements in Tanzania," *Journal of Cleaner Production*, vol.17(1) (2009), p. 80.

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Small-scale gold mining occurs both illegally and with government sanction in Tanzania. To mine legally, Tanzanian citizens must apply for a renewable Primary Mining License (PML) authorizing them to mine an area of 10 hectares for 7 years.<sup>12</sup> Citizens can apply for multiple licenses. The mining regulations, Law of the Child Act, and Employment and Labour Relations Act prohibit license holders from employing anyone under the age of 18.<sup>13</sup> Once the PML is issued, the owner is legally responsible for activities on the site, including compliance with mining, environmental, and safety regulations.<sup>14</sup>

However, the majority of small-scale mining takes place on unlicensed, unauthorized mines.<sup>15</sup> Some unlicensed mines exist for many years and are usually controlled by the land owner or a prominent community member.<sup>16</sup> Other “gold rushes” spring up quickly and exist for a few months, typically on land owned by another individual or mining company.<sup>17</sup> Communities rush to these areas when there is news of someone striking gold and settle there until the deposit depletes or until they are evicted by local authorities.<sup>18</sup>

Currently, few individuals are able to apply for a PML because large mining companies hold prospecting and mining licenses over much of Tanzania’s mineral-rich areas.<sup>19</sup> Additionally, applying for a PML may require overcoming significant costs and bureaucratic hurdles. At present a PML costs 20,000 Tanzanian Shillings (T Sh) (US\$12.28).<sup>20</sup> According to one researcher, miners may also have to pay other hidden expenses such as the cost of finding the coordinates of a mining area or a \$50 fee to access information from a

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<sup>12</sup> The Mining (Mineral Rights) Regulations, Government Notice No. 405, 2010, art. 5(1); The Mining Act, No.14 of 2010, [http://teiti.or.tz/news\\_images/news4f632bc701dfb.pdf](http://teiti.or.tz/news_images/news4f632bc701dfb.pdf), arts. 8(2), 55(2), 56. Specific types of companies and partnerships may also meet the criteria to apply for a PML.

<sup>13</sup> The Mining (Environmental Protection for Small Scale Mining) Regulations, Government Notice No. 403, 2010, art. 15; Law of the Child Act, No. 21 of 2009, [http://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---ilo\\_aids/documents/legaldocument/wcms\\_151287.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_151287.pdf) (accessed February 9, 2013), art. 82; Employment and Labour Relations Act, No. 6 of 2004, [http://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---ilo\\_aids/documents/legaldocument/wcms\\_125591.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_125591.pdf) (accessed February 9, 2013), art. 5(3).

<sup>14</sup> Human Rights Watch interview with mining official, Mwanza, October 15, 2012.

<sup>15</sup> UNEP, “Analysis of Formalization Approaches,” p. 3.

<sup>16</sup> Human Rights Watch telephone interview with small-scale gold mining expert, January 23, 2013.

<sup>17</sup> Human Rights Watch interview with mining official, Kahama town, Kahama district, October 19, 2012.

<sup>18</sup> Human Rights Watch interview with mining official, Mwanza, October 15, 2012, and a mining official, Kahama town, Kahama district, October 19, 2012.

<sup>19</sup> Human Rights Watch telephone interview with small-scale gold mining expert, January 10, 2013, and interview with Fredy A. M. Mahobe, assistant commissioner for small scale mining development, Ministry of Energy and Minerals, Dar es Salaam, October 24, 2012.

<sup>20</sup> Exchange rate April 2013 is US\$1 to 1,628.48T Sh. This rate is used throughout the report.

database at the Zonal Mines Office about the location of other mining licenses.<sup>21</sup> Small-scale miners may also lack knowledge of the legal requirements and institutional procedures to apply for a PML.<sup>22</sup>

The government recently commenced a process to make licenses more accessible to small-scale miners by negotiating for land with large-scale mining companies and by cordoning off some relinquished land from prospective license holders.<sup>23</sup>

There are up to three hierarchical categories of labor on small-scale gold mines: the person who controls the mine (a PML holder, land owner, or prominent community member, who is commonly called the “owner”), pit holders (who lease pits from the person who controls the mine) and workers (who dig in the pits, and who may also engage in other processing activities).<sup>24</sup> Most mines operate using a production-sharing model, meaning the owner, pit holder, and workers each take a percentage of the ore or gold produced.<sup>25</sup> Typically the owner claims between 20 and 50 percent of the gold production.<sup>26</sup> Once the miners dig up the ore from the pits, specialized workers sometimes process the gold. Their activities include ore transportation and crushing, as well as separation of the gold through mixing with mercury.<sup>27</sup> They typically receive payment in the form of a fixed amount of cash or ore.<sup>28</sup> Children are involved in both digging in the pits as well as processing activities.

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<sup>21</sup> Stina Møldrup Sørensen, “Informing the people: An Ethnographic Case Study on Information Dissemination and Informal Formal Practices amongst Artisanal and Small-Scale Miners in Makongolosi, Tanzania,” August 2012 Dissertation is submitted to the University of Edinburgh, pp. 38-39.

<sup>22</sup> UNEP, “Analysis of Formalization Approaches,” p. 11.

<sup>23</sup> Human Rights Watch interview with Fredy A. M. Mahobe, assistant commissioner for small scale mining development, Ministry of Energy and Minerals, October 24, 2012, and telephone conversation on February 1, 2013.

<sup>24</sup> Jesper Bosse Jønsson and Deborah Fahy Bryceson, “Rushing for Gold: Mobility and Small-Scale Mining in East Africa,” *Journal of Contemporary African Studies*, vol. 30 (4) (October 2012), p. 255; Jesper Bosse Jønsson and Niels Fold, “Mining ‘From Below’: Taking Africa’s Artisanal Miners Seriously,” *Geography Compass*, vol. 5 (7) (2011), p. 484; Human Rights Watch interview with Alex Magayane, assistant commissioner for minerals eastern zone, Ministry of Energy and Minerals, Dar es Salaam, October 9, 2012.

<sup>25</sup> Jesper Bosse Jønsson and Niels Fold, “Handling Uncertainty: Policy and Organizational Practices in Tanzania’s Small-Scale Gold Mining Sector,” *Natural Resources Forum*, vol. 33 (2009), p. 217.

<sup>26</sup> Human Rights Watch interviews with a miner, Kaseme Ward, Geita district, October 12, 2012, representatives of MWAREMA Mining Association, Geita town, Geita Region, October 11, 2012, and Adam K., 17, Mwabomba Mine, Kahama district, October 17, 2012; Bryceson and Jønsson, “Tanzanian Artisanal Gold Mining: Present and Future,” p. 1; Jønsson and Bryceson, “Rushing for Gold,” p. 255.

<sup>27</sup> Jønsson and Bryceson, “Rushing for Gold,” p. 255.

<sup>28</sup> *Ibid.*

## Mercury Use in Gold Mining

The use of mercury to extract gold in hard rock mining is widespread. While large mining operations have the capacity to use cyanide for more complex and efficient processing, poorer small-scale miners in some 70 countries, including Tanzania, rely on mercury to extract the gold.<sup>29</sup> They mix the crushed gold ore with the mercury and heat the amalgam to evaporate the mercury, leaving gold behind. Evaporated mercury can travel long distances, even between continents, and can impact areas far away from small-scale mines.<sup>30</sup> According to the expert database Mercury Watch, Tanzania is the third highest mercury emitter in Africa after Ghana and Sudan, releasing an average of 45 tonnes of mercury in 2010.<sup>31</sup>

Small-scale miners favor mercury over other forms of extraction because of its ease, affordability and accessibility.<sup>32</sup> It allows miners to work efficiently and independently.<sup>33</sup> Current mercury-free extraction alternatives are more difficult to introduce because of their cost, training, and organizational requirements.<sup>34</sup>

## Child Labor in Tanzania

Child labor is a problem in mining and across many other sectors in Tanzania, including in agriculture, domestic work, and fishing. Agriculture employs close to 80 percent of

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<sup>29</sup> UNEP, “Squeezing Gold from a Stone: Addressing the Toxic Health Risks and Pollution Caused by Mercury Use in the Small Scale and Artisanal Gold Mining Sector,” undated, [http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/Publications/UNEP\\_Squeezing\\_gold%20april%2010.pdf](http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/Publications/UNEP_Squeezing_gold%20april%2010.pdf) (accessed March 18, 2013), p. 10; UNEP, Global Mercury Partnership, “A Practical Guide,” p. 68.

<sup>30</sup> United Nations Industrial Development Agency (UNIDO) et al., “Final Report for an Assessment of the Environment and Health in the Rwamagasa area, Tanzania,” 2004, <http://iwlearn.net/iw-projects/1223/reports/tanzania/final-report-for-an-assessment-of-the-environment-and-health-in-the-rwamagasa-area-tanzania/view> (accessed February 15, 2013), executive summary, p. 21; UNEP, “Global Mercury Assessment 2013. Sources, Emissions, Releases and Environmental Transport,” Geneva 2013, <http://www.unep.org/PDF/PressReleases/GlobalMercuryAssessment2013.pdf> (accessed March 26, 2013), pp. 19, 22.

<sup>31</sup> “Global Database,” MercuryWatch, <http://www.mercurywatch.org/default.aspx?panename=globalDatabase> (accessed February 28, 2013); “Home Page, Mean ASM Mercury,” MercuryWatch, <http://www.mercurywatch.org/Default.aspx> (accessed February 28, 2013). MercuryWatch collects, analyzes, and publishes information about mercury use and emissions around the world with a focus on artisanal and small scale gold mining. The global database is sponsored by the Artisanal Gold Council (AGC) and UNEP. The (AGC) is a not-for-profit organization, based in Canada, working to sustainably develop artisanal and small-scale gold mining.

<sup>32</sup> UNEP, “Squeezing Gold from a Stone,” p. 7.

<sup>33</sup> Ibid.

<sup>34</sup> Human Rights Watch interviews with a representative of MBEREMA Mining Association, Matundasi Ward, Chunya district, December 12, 2012; Peter W.U. Appel and Jesper Bosse Jønsson, “Borax – an Alternative to Mercury for Gold extraction by Small-Scale Miners: Introducing the Method in Tanzania,” *Geological Survey of Denmark and Greenland Bulletin*, vol. 20 (2010), [http://www.geus.dk/publications/bull/nr20/nr20\\_po87-090.pdf](http://www.geus.dk/publications/bull/nr20/nr20_po87-090.pdf) (accessed February 12, 2013), p. 88.

Tanzania's rural labor force and the greatest number of children.<sup>35</sup> According to a 2006 government survey, about 20 percent of children between the ages of 5 and 17 are engaged in some form of child labor in Tanzania, though this number may be higher, because of the definition of child labor used in the research.<sup>36</sup>

The International Labour Organization (ILO) considers mining among the most hazardous sectors and occupations, because of the rates of death, injury and disease in the sector.<sup>37</sup> Although the Law of the Child Act, Employment and Labour Relations Act, and the mining regulations prohibit mine owners from employing children, the United Nations and NGOs have documented the use of child labor in tanzanite gem mines and in small-scale gold mining.<sup>38</sup> Thousands of children are likely to be involved in this sector.<sup>39</sup> The government has also adopted a list of hazardous work, under the regulations of the Law of the Child Act, which names and prohibits many forms of labor including small-scale mining and commercial sexual exploitation.<sup>40</sup>

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<sup>35</sup> Human Rights Watch interview with Mkama Nyamwesa, Ministry of Labour and Employment, Dar es Salaam, October 8, 2012; Occupational Health and Safety, Ministry of Labour and Employment, "Hazardous Child Work in Tanzania," on file with Human Rights Watch.

<sup>36</sup> National Bureau of Statistics, "Child Labour in Tanzania: An Analysis of Findings of the Integrated Labour Force Survey," 2006, <http://www.ilo.org/ipeinfo/product/viewProduct.do?productId=16320>, (accessed February 11, 2013), pp. xv-xvi. Estimates of the number of child laborers differ considerably because of the different definitions of child labor. According to the United Nations Children's Fund (UNICEF), about 20 percent of children between the ages of 5 and 14 are engaged in child labor; this statistic excludes older children. UNICEF, "United Republic of Tanzania Statistics," [http://www.unicef.org/infobycountry/tanzania\\_statistics.html](http://www.unicef.org/infobycountry/tanzania_statistics.html) (accessed March 25, 2013). The United States Department of Labor reports that 27.9 percent of children between the ages of 5 and 14 are working. United States Department of Labor, "Findings on the Worst Forms of Child Labor," 2011, <http://www.dol.gov/ilab/programs/ocft/2011TDA.pdf> (accessed April 1, 2013), p. 593. According to a 2006 government survey, about 70 percent of children were involved in economic activities including family farming while about 20 percent were classified as child laborers. National Bureau of Statistics, "Child Labour in Tanzania," pp. xv-xvi.

<sup>37</sup> "Hazardous Work," International Labor Organization (ILO), Programme on Safety and Health at Work and the Environment, <http://www.ilo.org/safework/areasofwork/hazardous-work/lang-en/index.htm> (accessed February 28, 2013); "Mining: A Hazardous Work," International Labor Organization (ILO), Programme on Safety and Health at Work and the Environment, [http://www.ilo.org/safework/areasofwork/hazardous-work/WCMS\\_124598/lang-en/index.htm](http://www.ilo.org/safework/areasofwork/hazardous-work/WCMS_124598/lang-en/index.htm) (accessed June 27, 2013).

<sup>38</sup> Law of the Child Act, art. 82; Employment and Labour Relations Act, art.5 (3); The Mining (Environmental Protection for Small Scale Mining) Regulations, art. 15; see e.g. ILO-IPEC, "Tanzania, Children Labour in Mining"; IRIN Humanitarian News and Analysis, "Gem Slaves," video report, September 2006, <http://www.irinnews.org/film/4119/> (accessed April 1, 2013).

<sup>39</sup> See a 2002 International Labour Organization (ILO) report which indicated that in just three villages, up to 400 children were involved in small-sale mining in the highest season (the school holiday period). ILO-IPEC, "Tanzania, Children Labour in Mining," p. x.

<sup>40</sup> Human Rights Watch telephone interview with representative 2 from the International Labour Organization in Tanzania, May 9, 2013, email correspondence March 22 and 23, 2013.

Poverty drives many children to seek employment in mining.<sup>41</sup> Most of the child laborers interviewed by Human Rights Watch said they used their earnings for basic necessities such as food, rent, clothes, and school supplies such as exercise books, pens, and uniforms.

Children who have lost one or both of their parents—orphans—are particularly likely to be involved in the worst forms of child labor.<sup>42</sup> Tanzania has an estimated 3 million orphans, of whom roughly 1.3 million have lost a parent due to AIDS.<sup>43</sup> Many of these children lack financial and other support from their guardians or extended families.<sup>44</sup> Other factors, such as the gender, health status, and remarriage of the surviving parent or caregiver, may also contribute to orphans' vulnerability to child labor.<sup>45</sup> A 2002 ILO study found that roughly 53.8 percent of children engaged in fulltime work in Tanzania were either orphans or came from families where the father was absent or had died.<sup>46</sup>

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<sup>41</sup> ILO-IPEC, "Tanzania, Children Labour in Mining," pp. 31, 41.

<sup>42</sup> "Orphans," UNICEF, accessed July 3, 2013, [http://www.unicef.org/media/media\\_45279.html](http://www.unicef.org/media/media_45279.html). UNICEF and global partners define an orphan as a child who has lost one or both parents. They adopted this definition in the mid-1990s as the AIDS pandemic began leading to the death of millions of parents; UNICEF, "Africa's Orphaned Generations," 2003, [http://www.unicef.org/sowco6/pdfs/africas\\_orphans.pdf](http://www.unicef.org/sowco6/pdfs/africas_orphans.pdf) (accessed March 19, 2013), pp. 6, 30.

<sup>43</sup> "United Republic of Tanzania Statistics," UNICEF, accessed March 2, 2013, [http://www.unicef.org/infobycountry/tanzania\\_statistics.html](http://www.unicef.org/infobycountry/tanzania_statistics.html). Statistics are from 2009.

<sup>44</sup> UNICEF, "Africa's Orphaned Generations," p. 15; Anna Whitehouse, "A Situation Analysis of Orphans and Other Vulnerable Children in Mwanza Region, Tanzania," April 2002, pp. 41-42.

<sup>45</sup> See: e.g. David Evans and John Miguel, "Orphans and Schooling in Africa: A Longitudinal Analysis," Center for International and Development Economics Research, Working Paper No. CO5-143, March 2005, p. 31; Human Rights Watch, *Letting Them Fail: Government Neglect and the Right to Education for Children Affected by AIDS* (New York: Human Rights Watch, 2005), <http://www.hrw.org/reports/2005/10/11/letting-them-fail>, p. 39).

<sup>46</sup> ILO-IPEC, "Tanzania, Children Labour in Mining," p. x.

## II. “I Fear a Lot”: Child Labor and Exposure to Mercury in Small-Scale Gold Mines

### The Hazards of Mining Gold

Children work long hours, in hazardous conditions, on unlicensed and licensed small-scale gold mines, despite the prohibition of this type of work in Tanzania’s employment, mining, and child protection laws. Mining activities, such as digging and drilling in pits, working underground, crushing ore, and using mercury to extract the gold, expose children to many physical dangers, including dangerous tools, unstable pits, and toxic gases.

Interviewees suffered from fatigue, headaches, muscular pain, blistering, and swelling. Research suggests that long-term problems might include respiratory diseases, musculoskeletal problems, and mercury poisoning. Children often contributed some or all of their earnings to their families or relatives. Human Rights Watch interviewed girls who work on or near mining sites and found they sometimes became victims of sexual exploitation and abuse. Child labor in artisanal mining also affects school attendance and performance, and can cause children to drop out of school entirely.

### *Physical Dangers of Mining Gold*

#### **Digging and Drilling Pits**

The first phase of small-scale gold mining involves manually digging pits ranging from a few meters to up to 70 meters deep.<sup>47</sup> Human Rights Watch interviewed 18 children (14 boys and 4 girls) in Geita, Kahama, and Chunya districts, who dug in pits—a task that is especially common on new sites. For example, Issa M., about 12 years old, told Human Rights Watch that he dug the rocks with a pick, adding “It’s hard work. It’s hard rock. It’s hard to break. Yesterday was the first day I did it. My hands are aching.”<sup>48</sup> An 11-year-old boy, Jalil H. said, “When I was digging one of the rocks, the rock hit [my hand]. There is a scar. I found a piece of cloth to cover it and continued. My hand is aching.”<sup>49</sup>

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<sup>47</sup> Human Rights Watch interview with miner, Nyarugusu Ward, Chunya district, October 19, 2012. According to a Tanzanian NGO, pits can be up to 100 meters deep. Agenda for Environment and Responsible Development (Agenda), “Study on Impact of Mercury Use by Artisanal Gold Miners in Tanzania,” April 2009, p. 18 (on file with Human Rights Watch).

<sup>48</sup> Human Rights Watch interview with Issa M., estimated age 12, Mwabomba Mine, Kahama district, October 17, 2012.

<sup>49</sup> Human Rights Watch interview with Jalil H., age 11, Zongomera Ward, Kahama district, October 16, 2012.

While most children dug with shovels, hammers, and picks, a few said they used drills. This tool is particularly dangerous because it is heavy and flings stones into the surrounding area. Thirteen-year-old Michael H. described losing control of the drill for a moment:

I was hurt from the instrument I use to dig. I was drilling. I was sent to hospital. I hurt a toe. The whole nail was peeled off. I took medicine. When I was drilling I drilled on the stone and then the instrument lost direction and landed on my foot.... I was 12 [when the accident happened].<sup>50</sup>

Prolonged exposure to dust from drilling operations and handling and crushing ore may cause lung diseases such as silicosis.<sup>51</sup> Miners with silicosis are at a high risk of developing tuberculosis (TB).<sup>52</sup> The severity of childhood pulmonary TB is not well understood because it is difficult to diagnose and limited information is known about the outcomes of children with TB.<sup>53</sup>

### **Working Underground**

Work underground in unstable pits is one of the most hazardous aspects of mining. The Mining Regulations require adult miners to ascend and descend on a ladder on one side of the pit and to hoist the minerals retrieved in the mine on the other side.<sup>54</sup> However, children use a range of dangerous techniques to climb down deep pits to dig and collect ore, risking injury and even death from falling. Several boys told Human Rights Watch that they climbed down the pits by either holding onto the sides of the pit or onto a rope. Fumo D., who was 15 years old, stated:

We go down the pit by holding onto the sides [with the right and left foot].  
The pits are 8 to 10 meters deep, even 15 meters.... Several people go down

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<sup>50</sup> Human Rights Watch interview with Michael H., age 13, Matundasi Ward, Chunya district, December 10, 2012.

<sup>51</sup> Manfred Walle and Norman Jennings, "Safety & health in small-scale surface mines - A handbook," 2001, [http://www.ilo.org/wcmsp5/groups/public/---ed\\_dialogue/---sector/documents/publication/wcms\\_162738.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/publication/wcms_162738.pdf) (accessed March 19, 2013), p. 11.

<sup>52</sup> "Silicosis," U.S. National Library of Medicine, Medline Plus, accessed May 7, 2013, <http://www.nlm.nih.gov/medlineplus/ency/article/000134.htm>.

<sup>53</sup> Shou-Chien Chen et al., "Updated Diagnosis and Treatment of Childhood Tuberculosis," *World Journal of Pediatrics*, vol. 9 (1) February 15, 2013; <http://www.wjpc.com/UploadFile/13-9.pdf> (accessed May 7, 2013), p. 9.

<sup>54</sup> The Mining (Safety, Occupational Health and Environment Protection) Regulations, Government Notice No. 408, 2010, art. 139 (2).

to different levels. We hoist the ore up, passing the sacks from person to person.... Sometimes we use ropes, tied to a tree.<sup>55</sup>

These dangerous climbing techniques have sometimes resulted in children falling. Fumo D. also told Human Rights Watch: “One of the students, Anthony D., slipped and had a fracture. He was treated in Geita. He was in class 4, 11 or 12 years old.”<sup>56</sup> Bakari J., a 16-year-old boy, said: “Last week I slipped in the pit when I was climbing up. I fell. I hurt my elbow.”<sup>57</sup>

Two children interviewed by Human Rights Watch said they were involved in accidents where the pits collapsed. Adam K., a 17-year-old boy shared his harrowing experience:

One time the pit collapsed. It was September last year. I thought I was dead, I was so frightened. I was digging down and I went horizontally and then the rest of the land slid. I was just behind the landslide, not inside. Two of my friends [both adults] who were on the other side died. I was so scared. I just cried and despaired.<sup>58</sup>

A pit also collapsed on 13-year-old Rahim T. in Chunya district. Fellow miners nearby had to dig him out of the pit and he spent about a week in the hospital.<sup>59</sup> Medical officials in Geita and Chunya districts described attending to fractures, broken bones, and cuts from mining accidents, particularly from collapsed pits.<sup>60</sup>

Children who work in deep pits may be exposed to dangerous and sometimes deadly gases that may be released during the mining process.<sup>61</sup> This includes gas from pumps, which the government prohibits underground, but which miners often use to remove water

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<sup>55</sup> Human Rights Watch interview with Fumo D., age 15, Nyarugusu Ward, Geita district, October 14, 2012.

<sup>56</sup> Ibid.

<sup>57</sup> Human Rights Watch interview with Bakari J., age 16, Mwabomba Mine, Kahama district, October 18, 2012.

<sup>58</sup> Human Rights Watch interview with Adam K., age 17, Mwabomba Mine, Kahama district, October 17, 2012.

<sup>59</sup> Human Rights Watch interview with Rahim T., age 13, Matundasi Ward, Chunya district, December 10, 2012.

<sup>60</sup> Human Rights Watch interviews with a clinical officer, Nyarugusu Ward, Geita district, October 11, 2012, medical officers, Matundasi Ward, Chunya district, December 10, 2012, and medical officers, Chunya town, Chunya district, December 13, 2012.

<sup>61</sup> See ILO, *Children in Hazardous Work. What We Know. What We Need to Do*, (Geneva: ILO 2011), [http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms\\_155428.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_155428.pdf) (accessed February 12, 2013), p. 34; Walle and Jennings, “Safety & health in Small-Scale Surface Mines,” p. 12.

from the pits.<sup>62</sup> In order to mitigate the dangerous effects of the gas, 15-year-old Fumo D., who mined in Geita district explained, “We throw branches when there is gas [to increase the oxygen levels in the pits]. We sense this when we are going down into the pit. Near the ground, you feel how your chest tightens.”<sup>63</sup>

Medical officials in Matundasi Ward in Chunya district and one child miner reported seeing a total of five adult deaths caused by gas from the mines.<sup>64</sup> A medical official working near the mines in Chunya told Human Rights Watch:

We see that the most dangerous are gas accidents because when they [the miners] are drilling they use those chemicals and gases to drill ... When they feel like the gold is already maybe near, they just go down before the gases are finished [have escaped into the atmosphere].<sup>65</sup>

### **Carrying and Crushing Gold Ore**

After miners retrieve gold ore from the pits, they carry the rocks to a processing area where they or other workers crush the ore into powder. Transport of ore is a common form of work for boys and girls on the artisanal gold mines.

Sacks of ore can weigh up to 60 kilograms and can cause potentially serious injuries.<sup>66</sup> Abasi L., who worked in Geita district, said he transported ore for the first time at age 16. Once he carried a load that was too heavy for him over a distance of roughly 15 meters. He started feeling pain in his chest and had to be hospitalized. It took him three days to recover.<sup>67</sup> Even small children haul heavy loads. Faraji J., a boy about 8 years old, told Human Rights Watch: “I help my mum by collecting stones [ore]. I carry the stones in bags

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<sup>62</sup> The Mining (Safety, Occupational Health and Environment Protection) Regulations, art. 106(1); Human Rights Watch interview with medical officers, Chunya town, Chunya district, December 13, 2012.

<sup>63</sup> Human Rights Watch interview with Fumo D., age 15, Nyarugusu Ward, Geita district, October 14, 2012.

<sup>64</sup> Human Rights Watch interviews with medical officials, Matundasi Ward, Chunya district, December 10, 2012, and with Taji J. age 14, Matundasi Ward, Chunya district, December 10, 2012.

<sup>65</sup> Human Rights Watch interview with medical officials, Matundasi Ward, Chunya district, December 10, 2012.

<sup>66</sup> Comment from a miner, Nyarugusu Ward, Geita district, October 11, 2012.

<sup>67</sup> Human Rights Watch interview with Abasi L., age 20, former child laborer, Nyarugusu Ward, Geita district, October 11, 2012.

on a bicycle. I bring them to the crusher. I don't like the work."<sup>68</sup> Lifting and carrying heavy ore can lead to skeletal deformation and accelerated joint deterioration.<sup>69</sup>

Miners first crush the ore manually using hammers, stones, and other metallic objects. Eight children we spoke to said they had accidentally hit their hands while crushing the ore and two had lost fingernails. Akilah O., a 10-year-old girl, explained:

[I] once knocked till my nail was removed. I was taken to a hospital and they put a bandage.... I was seven years old. It was a hammer that hit me.... [I am] scared a lot, nowadays I do not prefer crushing, I do other processes.<sup>70</sup>

The miners also crush or further process the gold ore using a type of grinder called a ball mill—a large, cylindrical machine. One child laborer complained that sometimes the belt from the ball mill would hit his hands.<sup>71</sup>

After crushing the gold ore into dust, miners often concentrate the gold by pouring water over the ore and passing it through a sluice. They then rinse the accumulated particles and remaining dust out of the sacks in a barrel or pan.<sup>72</sup>

### **Mixing and Burning Mercury-Gold Amalgam**

In order to separate the gold from the remaining dirt and other minerals, miners use mercury to retrieve the gold. Using roughly half a tablespoon of mercury for a pan of water and ground ore, miners mix the solution with their bare hands until the mercury has attracted the gold particles, creating a gold-mercury amalgam. They then burn the amalgam to evaporate the mercury and recover the gold. During this process, children may have direct contact with mercury by touching it with their bare hands and by breathing in fumes as the mercury is burned away, both of which places them at risk of mercury poisoning. Mercury can cause irreversible damage to a child's development and a wide range of serious conditions.<sup>73</sup>

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<sup>68</sup> Human Rights Watch interview with Faraji J., estimated age 8, Kaseme Ward, Geita district, October 12, 2012.

<sup>69</sup> ILO, *Children in Hazardous Work*.

<sup>70</sup> Human Rights Watch interview with Akilah O., age 10, Chokaa Ward, Chunya district, December 12, 2012.

<sup>71</sup> Human Rights Watch interview with Yusuf J., age 17, Chokaa Ward, Chunya district, December 11, 2012.

<sup>72</sup> Jesper Bosse Jønsson, Peter W.U. Appel, and Raphael Tihelwa Chibunda, "A Matter of Approach: the Retort's Potential to Reduce Mercury Consumption within Small-Scale Gold Mining Settlements in Tanzania," *Journal of Cleaner Production*, vol.17 (1) (2009), p. 80.

<sup>73</sup> See 'Mercury Exposure and Its Effect on Children's Health' section.

Michael H., a 13-year-old boy, described the amalgamation process to Human Rights Watch:

I take the ground sand and put it in a basin and I pour in water and put in a small amount of mercury.... Then I start mixing the sand with the mercury. When I finish, I take a piece of cloth [to squeeze the amalgam in the cloth to get rid of the water].... When I finish filtering, I take the cloth out and ... I find gold [the mercury-gold amalgam] ... I take a certain bowl made of metal and I burn [the amalgam] ... and it turns to gold. Sometimes I do it by myself. Sometimes I do it with my friends. After I burn, I take the gold when it cools.<sup>74</sup>

Nineteen children (seventeen boys and two girls) interviewed by Human Rights Watch said they had used mercury on the mines. The youngest was 12 years old. He told us he accompanied his mother to the mine daily where he sometimes mixed the mercury and gold and burned the amalgam. He complained that he experienced dizziness and pain in his head every day.<sup>75</sup>

The most serious health hazard comes from exposure to mercury vapor.<sup>76</sup> After amalgamation, gold miners burn the amalgam on a small fire to recover the gold. Some children do this a few times per week. During the school holidays, 13-year-old Zaki S. said he mixed and burned the mercury gold amalgam up to twice a day; 13-year-old Rahim T. said he processed gold with mercury about three times per week.<sup>77</sup> Most children we interviewed said that they stood between one and three meters away from the amalgam as it burned. The length of time for burning is usually a few minutes, but it varies, depending on the quantity of gold.<sup>78</sup>

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<sup>74</sup> Human Rights Watch interview with Michael H., age 13, Matundasi Ward, Chunya district, December 10, 2012.

<sup>75</sup> Human Rights Watch interview with Erevu B., Matundasi Ward, Chunya district, December 9, 2012.

<sup>76</sup> Marcello Veiga and Randy Baker, Global Mercury Project, "Protocols for Environmental and Health Assessment of Mercury Released by Artisanal and Small-Scale Gold Miners," 2004, [http://www.globalmercuryproject.org/documents/non\\_country%20specific/Protocols\\_for\\_Environmental%20Assessment.pdf](http://www.globalmercuryproject.org/documents/non_country%20specific/Protocols_for_Environmental%20Assessment.pdf) (accessed April 3, 2013), pp. 68-74.

<sup>77</sup> Human Rights Watch interviews with Zaki S., age 13, and Rahim T., age 14, Matundasi Ward, Chunya district, December 10, 2012.

<sup>78</sup> Human Rights Watch interviews with Elimu A., age 15, and Erevu B., age, 12, Matundasi Ward, Chunya district, December 9, 2012; with Michael H., age 13, Farid. S., age 15, Faiza J., age 13, Zaki S., age 13, Lumumba J., age 15, and Rahim T., age 13, Matundasi Ward, Chunya district, December 10, 2012; and with Rashid A., age 17, Yasmin D., age 15, Kheri M., age 17, Yusuf J., age 17, Chokaa Ward, Chunya district, December 11, 2012.

Exposure to mercury vapor occurs even when children do not burn the amalgam themselves. Some children, like 14-year-old Taji J., said they handed the amalgam to an adult who specialized in amalgamation—an “amalgamator”—or a trader, and watched it burn, adding: “The one who buys the gold is the one who burns it. I am always there when they burn it.”<sup>79</sup> The evaporated mercury can travel long distances, potentially impacting children near the burning site and many kilometers away.<sup>80</sup>

Despite widespread knowledge that mercury is dangerous, many interviewees did not know how it could affect their own health and had limited information about how they could protect themselves.<sup>81</sup> Some adult and child miners said they tried to avoid exposure to the mercury vapor by covering their noses, and by standing far away from the burning amalgam or in the opposite direction of the wind.<sup>82</sup> One adult interviewee told Human Rights Watch, “People drink tea with lots of milk to protect themselves.”<sup>83</sup>

### *Working Hours and Remuneration*

Children described working long hours and earning money either through selling the gold they extracted or for discrete tasks on the mine. They often used their earnings to contribute to their family or other adults they lived with.

### **Working Hours**

Most of the children we interviewed said they worked for long hours. Almost half were not enrolled in school and said they came to the mine several days per week, sometimes daily.<sup>84</sup> Their shifts on the mine lasted between 6 and 24 hours. Six said they worked late at night or early in the morning, in violation of the Law of the Child Act, which prohibits children from working between the hours of 8 p.m. and 6 a.m.<sup>85</sup> Asani A., a 17-year-old boy, described how he worked underground through the night, with a group of five to ten people in Geita district: “You enter in the morning and stay for around 24 hours, then you

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<sup>79</sup> Human Rights Watch interview with Taji J., age 14, Matundasi Ward, Chunya district, December 10, 2012.

<sup>80</sup> UNIDO et al., “Final Report,” executive summary, p. 21.

<sup>81</sup> Agenda, “Study on Impact of Mercury Use,” p. 39.

<sup>82</sup> Human Rights Watch interviews with Erevu B., age 12, Matundasi Ward, Chunya district, December 9, 2012; with Faiza J., age 13, Matundasi Ward, Chunya district, December 10, 2012; and with a female miner, Kaseme Ward, Geita district, October 12, 2012.

<sup>83</sup> Human Rights Watch interview with female miner, Kaseme Ward, Geita district, October 12, 2012.

<sup>84</sup> Among the group of child laborers who were not enrolled in school, six were waiting for their primary school exam results. If they pass, they may enroll in secondary school.

<sup>85</sup> Law of the Child Act, art. 79 (1)-(2).

have a day of rest. Yesterday I was in the mine from 1 p.m. to 6 a.m.”<sup>86</sup> Musa N., a 15-year-old boy, also told Human Rights Watch about his 24 hour shift: “Some days I work day and night. I start my duty at 11 p.m. until 11 p.m. [the next day]. We divide into two groups so I can rest when the others are working.”<sup>87</sup>

Other children in Geita, Kahama and Chunya districts said they attended school but worked after school, over the weekend, and during the school holidays. Combining school and mining work may affect children’s education as it limits their time for study, reduces their eagerness to learn, and may impact their performance.<sup>88</sup>

### **Remuneration**

Some child laborers said they earned money by processing and selling the gold they had extracted to traders; others said they were paid cash for specific tasks. The pay was not regular, as gold mining is unpredictable. Children reported selling 1 gram of gold for 50,000 to 70,000 Tanzanian Shillings (TSh) (US\$30.70 - \$42.98). Child laborers involved in processing earned between 1,000 and 5,000 TSh (about \$0.61 - \$3.07) for crushing a pile of rocks, 2,000 TSh (about \$1.23) for mixing a basin of mercury and gold, and 1,000 to 20,000 TSh (\$0.61 - \$12.28) for a day’s work. Like adults, children who mined in a group normally shared the proceeds with their team and sometimes had to pay the owners of the mine or pit a portion of the gold or a percentage of the sale.<sup>89</sup> Children often used the income they earned to help to support their families or relatives they lived with.

### *Sexual Exploitation*

Small-scale gold mining communities are largely made up of makeshift settlements of single, male migrants with some disposable income, contributing to high levels of sexual exploitation of children and adult sex work. Some girls on and around mining sites, including those working in small restaurants preparing food for the miners (a common job for girls at mines), reported sexual harassment, being pressured into having sex, and

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<sup>86</sup> Human Rights Watch interview with Asani A., age 17, Kaseme Ward, Geita district, October 12, 2012.

<sup>87</sup> Human Rights Watch interview with Musa N., age 15, Mwabomba Mine, Kahama district, October 17, 2012.

<sup>88</sup> See ‘Harm to Education’ Section.

<sup>89</sup> For example Haki E., a 14-year-old boy, said he worked with a metal detector to find gold for miners. He had to pay 50 percent of his earnings to the owner of the metal detector, 35 percent to the miners who dug out the ore, and kept 15 percent for himself. Human Rights Watch interview with Haki E., age 14, Nyarugusu Ward, Geita district, October 14, 2012.

commercial sexual exploitation.<sup>90</sup> This places girls at heightened risk of sexual violence and transmission of HIV and other sexually transmitted infections.

Yasmin D, a 15-year-old girl who extracted and processed her own gold in Chunya, described the practice of men approaching girls on the site for sex:

A lot of men approach me ... always showing me money.... Sex work is very common. [There are] many women coming from town.... I had a friend who is doing that. Most of those are working in the bar. Sometimes they stay here [on the mine] ... they sacrifice themselves in the forest. They create a hut and stay.<sup>91</sup>

Two cousins, both girls, Eidi B., age 16, and Farida C., age 15, sold food on a gold rush site in Kahama district with their grandmother. They also described men harassing them on the site. Both girls were living on the mine with no running water to bathe or go to the toilet. Eidi B., told Human Rights Watch:

It's a bad situation here. There are no latrines and no water for bathing.... I do not like it here. Men want to have relationships.... A guy came to the restaurant and said I want you to be my girlfriend and to make you laugh, because I love you ... Later when I refused, he said I was foolish. There have been many other cases like this. Some come to buy you food or soft drinks.... I would like to go to Mwanza [the capital of the region] and get tuition to go to school there again.<sup>92</sup>

Six girls interviewed in Mbeya region had engaged in sex work near the mines. Some came to stay in guesthouses in mining towns for brief periods of time.<sup>93</sup> Others worked as barmaids in Chunya district in Mbeya region. The barmaids said they had no option but to

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<sup>90</sup> All girls under 18 who are engaged in sex work are considered victims of commercial sexual exploitation. See "Commercial Sexual Exploitation of Children," International Labour Organization, accessed March 19, 2013, <http://www.ilo.org/ipec/areas/CSEC/lang--en/index.htm>.

<sup>91</sup> Human Rights Watch interview with Yasmin D., age 15, Chokaa Ward, Chunya district, December 11, 2012.

<sup>92</sup> Human Rights Watch interview with Eidi B., age 16, Busulwangili gold rush site, Kahama district, October 13, 2012.

<sup>93</sup> Human Rights Watch group interview with Sala A., age 16, Etana B., age 16, and Gasira C., age 14, Mbeya, December 7, 2012.

engage in sex work because they did not receive regular pay.<sup>94</sup> Wanda S., age 14, explained, “Some bosses don’t give money for food [to eat]. If they don’t provide money for food, [you have to do sex work].... I want to stop it.... I am regretting doing it [sex work].”<sup>95</sup>

Girls are also at risk of sexual violence. Medical officials at Chunya District Hospital said that they treated one victim of rape per month, including girls, mostly from small-scale gold mining areas in the district.<sup>96</sup> A 2013 baseline survey, conducted by Plan International on the eradication of the worst forms of child labor in eight mining districts, found that 19.2 percent of the working children surveyed were sexually abused.<sup>97</sup> Girls who are victims of commercial sexual exploitation are particularly vulnerable to rape and other forms of sexual violence, as are adult sex workers.<sup>98</sup> In Itumbi village in Chunya district, one sex worker complained they did not have an official place to report abuse from their clients.<sup>99</sup>

Girls who are sexually exploited are at risk of getting infected with HIV and other sexually transmitted infections. HIV prevalence among sex workers in Tanzania is significantly higher than the prevalence in the general population between ages 15 and 49, which is at 5.6 percent.<sup>100</sup> A 2003 study conducted in the mining regions of Geita and Shinyanga found that 41.8 percent of female food and recreational workers were infected with HIV or another sexually transmitted infection.<sup>101</sup> A study of female bar workers in Mbeya region found an even higher HIV prevalence rate of 68 percent.<sup>102</sup> Although condoms are sometimes sold in the bars in mining areas, some of the girls never used them. Ituri K., a 16-year-old girl engaged in sex work, told Human Rights Watch that she did not know about

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<sup>94</sup> Human Rights Watch group interview with Pili N., age 17, Wanda S., age 14, Ituri K., age 16, and Mimi C., age 18, Chunya town, Chunya District, December 8, 2012.

<sup>95</sup> Ibid.

<sup>96</sup> Human Rights Watch interview with medical officers, Chunya town, Chunya district, December 13, 2012.

<sup>97</sup> Plan International Tanzania, “Final Baseline Survey Report on Programme for the Eradication of the Worst Forms of Child Labour in 8 Mining Wards of Geita district,” March 6, 2013 (on file with Human Rights Watch), p. 55.

<sup>98</sup> Human Rights Watch group interview with Raisa M., age 28, Saida B., age 25, Johanna T., age 18, Matundasi Ward, Chunya district, December 9, 2012.

<sup>99</sup> Human Rights Watch group interview with Layla I., age 24, Tahla N., age 29, Dada K., age 22, Grace K., age 20, Aesha K., age 20, Matundasi Ward, Chunya district, December 12, 2012.

<sup>100</sup> “Tanzania, United Republic of, Statistics,” UNICEF, [http://www.unicef.org/infobycountry/tanzania\\_statistics.html](http://www.unicef.org/infobycountry/tanzania_statistics.html) (accessed March 19, 2013). Statistics are from 2009.

<sup>101</sup> S. Clift et al., “Variations of HIV and STI Prevalences within Communities Neighbouring New Goldmines in Tanzania: Importance for Intervention Design,” *Sexually Transmitted Infections*, vol. 79 (2003), p. 310.

<sup>102</sup> G. Riedner et al., “Baseline Survey of Sexually Transmitted Infections in a Cohort of Female bar Workers in Mbeya Region, Tanzania,” *Sexually Transmitted Infections*, vol. 79 (2003), p. 385.

HIV and that she had never used a condom with any of the men she had sex with.<sup>103</sup> Some of the girls who used condoms with their clients still feared contracting sexually transmitted infections.<sup>104</sup>

### *Harm to Education*

In some cases, child labor in mining affects children’s school performance and attendance and can cause them to drop out of school entirely.

Children told us they sometimes missed school to work in mining. Lila A., a 12-year old girl who lived in Kahama district explained, “When I come to the mine I never go to school on that day.”<sup>105</sup> Dahlia A., a 10-year-old orphan who lived with her grandparents, said her grandmother sometimes encouraged her to skip school so she could transport ore at the mine.<sup>106</sup> Teachers in mining towns complained of low attendance during mining season. A deputy head teacher from a primary school in Kahama district stated, “The children who work in the mine are not attending classes. Before mining started [in July], attendance was so high. Since mining started, attendance has been poor.”<sup>107</sup> Another teacher in Kahama district told Human Rights Watch that during a gold rush period in his town, he could see a visible difference in attendance.<sup>108</sup> Teachers in mining areas described incidents of students being absent for two days per week and sometimes even a month or two.<sup>109</sup>

Mining can also hurt children’s performance by limiting their time for study and by making them sick. Fumo D., a 15-year-old boy, stated:

It is difficult to combine mining and school. I don’t get time to go through tutoring [which takes places on the weekends]. It [mining] hampers my schooling because sometimes it makes me less good at school. I wonder

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<sup>103</sup> Human Rights Watch group interview with Pili N., age 17, Wanda S., age 14, Ituri K., age 16, and Mimi C., age 18, Chunya town, Chunya District, December 8, 2012.

<sup>104</sup> Ibid.

<sup>105</sup> Human Rights Watch interview with Lila A., age 12, Mwabomba Mine, Kahama District, October 18, 2012.

<sup>106</sup> Human Rights Watch interview with Dahlia A., age 10, Chokaa Ward, Chunya District, December 12, 2012.

<sup>107</sup> Human Rights Watch interview with deputy head teacher, Zongomera Ward, Kahama District, October 16, 2012.

<sup>108</sup> Human Rights Watch interview with teacher, Mwabomba, Kahama district October 18, 2012.

<sup>109</sup> Human Rights Watch interviews with three school teachers, Nyarugusu Ward, Geita district, October 12, 2012, and a teacher, Matundasi Ward, Chunya district, December 10, 2012.

about the mine, it distracts me.... One day I did not take the bath [after mining] and then I fell sick [and missed classes]. I had pain all over my body.<sup>110</sup>

Loss of motivation and time for studies can cause children to fall behind in school. One child laborer described how he thought he had failed an exam because he was mining.<sup>111</sup> A teacher in a mining village stated that students that missed school lagged behind academically.<sup>112</sup> A 2013 baseline survey conducted by Plan International for their project on the eradication of the worst forms of child labor in eight mining wards in Geita district similarly found that fatigue and sickness caused by work in various sectors contributed to absenteeism and reduced the children's rates of concentration in class.<sup>113</sup>

Some government and education officials stated that small-scale mining contributed to dropouts. The district commissioner of Geita stated, "Boys leave schools and prefer going to the mine.... Children's dropout [rate] is on the increase because of their involvement in mining."<sup>114</sup> In a group interview, three teachers who work in Geita district explained that children are tempted to go to the mines when they see former classmates with cellphones and that mining is the main reason children drop out.<sup>115</sup>

## Mercury Exposure and Effects on Children's Health

Mercury use on small-scale gold mines poses a threat to artisanal miners as well as to surrounding communities.

The previous section describes how children who work in mining inhale toxic mercury vapor when burning the mercury-gold amalgam. They mix mercury and ground ore with their bare hands, creating a gold-mercury amalgam. They then burn the amalgam on a small fire to evaporate the mercury and recover the gold. The most serious health hazard comes from exposure to mercury vapor.<sup>116</sup> Some children in Chunya district processed the gold and mercury multiple times a week.

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<sup>110</sup> Human Rights Watch interview with Fumo D., age 15, Nyarugusu Ward, Geita district, October 14, 2012.

<sup>111</sup> Human Rights Watch interview with Elimu A., age 15, Matundasi Ward, Chunya district, December 9, 2012.

<sup>112</sup> Human Rights Watch interview with teacher, Matundasi Ward, Chunya district, December 10, 2012.

<sup>113</sup> Plan International Tanzania, "Final Baseline Survey Report," p. 55.

<sup>114</sup> Human Rights Watch interview with district commissioner Geita town, Geita district, October 11, 2012.

<sup>115</sup> Human Rights Watch interview with three school teachers, Nyarugusu Ward, Geita district, October 12, 2012.

<sup>116</sup> Veiga and Baker, "Protocols for Environmental and Health Assessment," pp. 68-74.

This section shows that even children who are not working with mercury are at risk of exposure. They may inhale mercury vapor or ingest mercury-contaminated dust when family or community members process gold at home. Also, mercury from mining sites can enter the environment and be transformed into a compound called methylmercury which may make its way into fish, posing risks to all fish-eating populations in the affected region. As a result, more children may be exposed to mercury in the home than through work in mining.

Mercury poisoning can cause a wide range of serious health effects for children. It attacks the central nervous system and can cause developmental and neurological problems. Mercury is particularly dangerous to fetuses and infants.

### *Mercury Exposure around Small-Scale Gold Mines*

#### **Burning Amalgam in Residential Areas**

Miners sometimes process gold ore at home because of security concerns and scarcity of water on the mine. A study conducted by a local nongovernmental organization (NGO) on the impact of mercury use by small-scale gold miners found that “[d]ecomposition of gold-mercury amalgam is either done at home, in the bush, mining sites, processing sites or anywhere the miners feel that they are safe.”<sup>117</sup> This practice exposes children in these areas to toxic mercury vapor.

Human Rights Watch interviewed seven individuals who processed gold in their homes. Three were adult miners who regularly brought gold home. One of the miners lived with his wife and 4 children, ages 14, 12, 5, and 1, in a village in Chunya district.<sup>118</sup> He had a small outdoor area in the center of his compound where he had processed crushed gold daily since 2007. He kept some of the mercury-contaminated sandy remains in the center of the compound after amalgamation. Human Rights Watch found his one-year-old daughter playing in these remains. When the miner finished amalgamating the gold ore and mercury, he burned it in a spoon or bowl about two meters away from the entrance to the kitchen and a sleeping area. When asked whether he was ever afraid of his children inhaling the mercury vapor, he responded, “[There is] no way out ... that is how we survive.”<sup>119</sup>

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<sup>117</sup> Agenda, “Study on Impact of Mercury Use,” p. 26.

<sup>118</sup> Human Rights Watch interview with adult miner who processes gold at home, Matundasi Ward, Chunya district, December 12, 2012.

<sup>119</sup> Ibid.

Human Rights Watch also visited a trader's home in Chunya district where miners processed the gold they extracted, in an area outside of the house, about five times a day.<sup>120</sup> One child explained that it was common for gold traders to have an amalgamation area in their homes: "Most buyers have [an amalgamation area]. They live there. I mix and burn ... [the gold and mercury] there."<sup>121</sup>

Three children told Human Rights Watch that they used mercury at home.<sup>122</sup> Faiza J., a 13-year-old girl, said: "I burn it [the amalgam] on a cooking stove at home.... In the house, not outside ... near the dining place."<sup>123</sup>

### **Mercury Contamination of Water and Fish**

In addition to children being directly exposed through breathing mercury vapor in their homes, they may also be exposed through eating contaminated fish. The use of mercury in mining can contaminate the surrounding environment, including water sources. Bacteria in water can convert mercury into a compound called methylmercury, which collects in fish and puts communities that eat fish at risk of mercury poisoning.

A study by a Tanzanian NGO noted that people build gold processing areas close to wetlands and rivers because water is important for gold extraction.<sup>124</sup> Mining regulations require Primary Mining License holders to construct washing and settling ponds 50 meters away from a water source.<sup>125</sup> However, miners do not always adhere to these standards. Human Rights Watch visited two mines in Chunya district that were located approximately 40 meters away from the Chunya River.

A teacher at one of the schools in the area complained that people were scared to drink the water in Chunya River because of possible contamination from the mines.<sup>126</sup> A representative from the Environmental Sanitation and Hygiene section of the Ministry of Health and Social Welfare stated that he had seen a small-scale gold mine in Sinjilili

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<sup>120</sup> Human Rights Watch interview with trader's employee, Matundasi Ward, Chunya district, December 12, 2012.

<sup>121</sup> Human Rights Watch interview with Lumumba J., age 15, Matundasi Ward, Chunya district, December 10, 2012.

<sup>122</sup> Human Rights Watch interviews with Ahmed K., age 13, Faiza J., age 13, and Rahim T., age 13, Matundasi Ward, Chunya district, December 10, 2012.

<sup>123</sup> Human Rights Watch interview with Faiza J., age 13, Matundasi Ward, Chunya district, December 10, 2012.

<sup>124</sup> Agenda, "Study on Impact of Mercury Use," p. 26.

<sup>125</sup> The Mining (Environmental Protection for Small Scale Mining) Regulations, art. 10(1).

<sup>126</sup> Human Rights Watch interview with teacher, Chokaa Ward, Chunya district, December 11, 2012.

village in Chunya district about 10 meters away from the Sinjilili River.<sup>127</sup> He had also visited a mine in Manyanya village in Chunya district located on the edge of the river.<sup>128</sup>

Moreover, even if washing and settling ponds are more than 50 meters away from water sources, mercury from the mine may still end up in nearby rivers. This can occur if contaminated water overflows from the mine, or through the erosion of contaminated soil or tailings into the river.<sup>129</sup> A 2002 International Labour Organization (ILO) report on child labor in mining stated that in Mlimanjiwa village in Chunya district, “soil erosion is a common phenomenon and rivers are contaminated with mercury.”<sup>130</sup>

Studies have found unsafe levels of mercury in fish adjacent to some gold mining sites in Tanzania. For example, a 2004 United Nations Industrial Development Organization (UNIDO) study showed that the mercury levels in some fish in the immediate Rwamgasa mining area exceeded international quality guidelines.<sup>131</sup>

### *Levels of Mercury Exposure in Small-Scale Mining Areas*

Scientific studies show that people who work or live in Tanzanian mining areas have a higher mercury burden than people living elsewhere in the country. These mercury levels sometimes exceed international safety standards.

For example, as illustrated in the graphs below, a study of adults in Rwamgasa in Geita district showed that the levels of mercury in participants living in Rwamgasa, a small-scale mining area, were higher than the levels of mercury in participants in the control area located 30 kilometers away.<sup>132</sup> Mercury exposure was even higher among miners who burned the mercury-gold amalgam— demonstrating the seriousness of inhaling mercury vapor.

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<sup>127</sup> Human Rights Watch telephone interview with representative of the Environmental Sanitation and Hygiene section of the Ministry of Health and Social Welfare, April 2, 2013.

<sup>128</sup> Ibid.

<sup>129</sup> Veiga and Baker, “Protocols for Environmental and Health Assessment,” p. 33; Kevin H. Telmer and Marcello M. Veiga, “World Emissions of Mercury from Artisanal and Small Scale Gold Mining,” 2008, <http://www.mercurywatch.org/userfiles/file/Telmer%20and%20Veiga%202009%20Springer.pdf> (accessed February 16, 2013), p. 136; Agenda, “Study on Impact of Mercury Use,” p. 37.

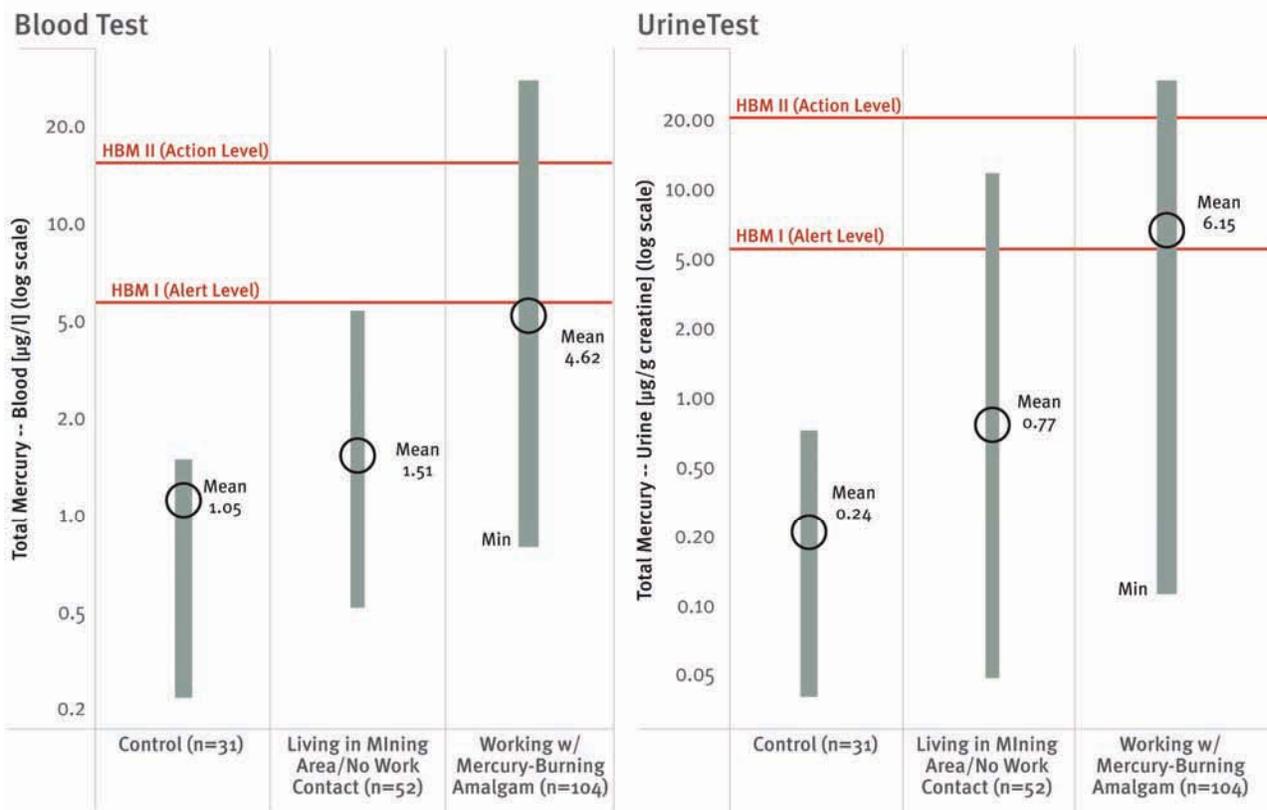
<sup>130</sup> ILO-IPEC, “Tanzania, Children Labour in Mining,” p. 39.

<sup>131</sup> H. Taylor, et. al., “Environmental Assessment of Mercury Contamination from the Rwamgasa Artisanal Gold Mining Centre, Geita district, Tanzania,” *Science of the Total Environment*, vol. 343 (2005), pp. 126-127.

<sup>132</sup> Stephan Bose-O'Reilly et al., “Health Assessment of Artisanal Gold Miners in Tanzania,” *Science of the Total Environment*, vol. 408 (2010), pp. 796-797, 802.

The graphs below also show two threshold values (called Human Biomonitoring levels, HBM) developed by the German Human Biomonitoring Commission to describe the health risk from mercury found in blood and urine.<sup>133</sup> Any results below HBM I are considered “safe” levels of mercury exposure.<sup>134</sup> Results between HBM I and HBM II are “alert” levels where people may suffer from adverse health effects and should take steps to reduce exposure.<sup>135</sup> Mercury levels above HBM II are “action” levels associated with negative health effects where exposure reduction is critical.<sup>136</sup> As seen below, mercury levels in some of the people in the Rwangasa study who either lived in Rwangasa or worked in mining, exceeded HBM I and HBM II.

### Mercury Levels Increase with Exposure



Source: S. Bose-O'Reilly et. al. Science of the Total Environment 408 (2010) 796 - 805

<sup>133</sup> Jennifer Baeuml et. al. “Human Biomonitoring Data from Mercury Exposed Miners in Six Artisanal Small-Scale Gold Mining Areas in Asia and Africa,” *Minerals*, vol. 1 (2011), pp. 126-127.

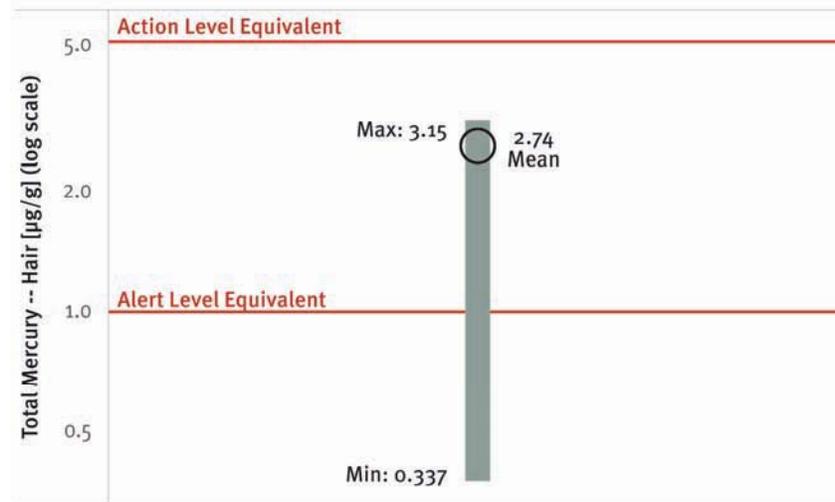
<sup>134</sup> Ibid.

<sup>135</sup> Ibid.

<sup>136</sup> Ibid.

More recent studies continue to show high mercury levels in communities near small-scale gold mines. In a 2012 study, about nine out of fourteen people had mercury levels in their hair that exceeded levels comparable to the HBM I “alert” and HBM II “action levels”.<sup>137</sup> Some of the data for the study was collected in Matundasi in Chunya district, an area visited by Human Rights Watch.

**2012 IPEN Mercury-Free Campaign Report: Results from Matundasi and Makongolosi mining Areas (n=14)**



Source: IPEN Mercury-Free Campaign Report, ASGM site: Matundasi and Makongolosi mining areas in Tanzania, Prepared by AGENDA (Tanzania), Arnika Association (Czech Republic) and the IPEN Heavy Metals Working Group, 3 January 2013, P3

### *The Health Effects of Mercury Exposure*

The inhalation of mercury can lead to a number of harmful health effects. Acute mercury exposure (occurring suddenly) can affect the central nervous system and kidneys and, at higher concentrations, may also impact the cardiovascular and respiratory systems, gastrointestinal tract, and the skin.<sup>138</sup> Chronic mercury exposure (occurring over a long period of time) may affect the central nervous system, gastrointestinal and reproductive

<sup>137</sup> Agenda et al., “ASGM sites: Matundasi and Makongolosi mining areas in Tanzania,” January 3, 2013, [http://www.ipen.org/hgmonitoring/pdfs/tanzania\\_mercury\\_report-hair-rev-en.pdf](http://www.ipen.org/hgmonitoring/pdfs/tanzania_mercury_report-hair-rev-en.pdf) (accessed February 16, 2013), p. 2.

<sup>138</sup> Health Protection Agency, “Inorganic mercury/Elemental mercury, Toxicological Overview.” 2007, [http://www.hpa.org.uk/webc/HPAwebFile/HPAweb\\_C/1194947331729](http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1194947331729) (accessed June 5, 2013), p. 5.

tracts, kidneys, oral cavity, lungs, eyes, and skin.<sup>139</sup> Symptoms of mercury intoxication in children include memory and coordination (ataxia) problems and tremors.<sup>140</sup>

Mercury is particularly harmful to fetuses and infants. It can be transmitted in utero and through breast milk.<sup>141</sup> It is highly toxic to the developing brains of infants.<sup>142</sup>

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<sup>139</sup> Ibid., p. 9.

<sup>140</sup> Stephan Bose-O'Reilly et al., "Mercury as Serious Health Hazard for Children in Gold Mining Areas," *Environmental Research*, vol. 107 (2008), pp. 89-97.

<sup>141</sup> Ibid.

<sup>142</sup> Ibid. p. 95.

### **III. Government Efforts to Reduce Child Labor and Mercury Exposure in Gold Mining**

#### **Child Labor in Gold Mining**

The Tanzanian government has taken some steps to address child labor in mining through the adoption of laws on child labor in hazardous work and through occasional child labor inspections on licensed, small-scale mines. However these initiatives have failed to end child labor in mining, largely because the government is not prioritizing and devoting enough resources to enforce child labor laws in this sector. Officials from the Ministry of Labour and Employment are also failing to conduct child labor inspections on unlicensed mines—the majority of sites—and mining officials rarely check for children during informal visits to these mines. On the few occasions that officials act on child labor, they do not properly assess the age of children and only send younger-looking children away. They also fail to support children’s transition out of child labor through, for example, reporting the children who work in mining to a social welfare officer or re-enrolling them in school.

The government has also failed to adequately address some of the underlying socioeconomic causes of child labor. In particular, the government has not provided adequate support to orphans and other vulnerable children. It also needs to strengthen efforts to eliminate illegal school contributions and to increase the number of children in Tanzania who can continue with their education after primary school.

#### *Child Labor Inspections in Small-Scale Mining: Few and Far Between* **Government Officers Failing to Implement and Enforce Child Labor Laws**

Despite strong laws and regulations for monitoring child labor, key government institutions are failing to carry out their responsibilities and enforce child labor laws.

Tanzania’s Law of the Child Act, Employment and Labour Relations Act, and the Mining Regulations prohibit children under the age of 18 from engaging in hazardous work, including mining.<sup>143</sup> The government has also adopted a list of hazardous work, under the

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<sup>143</sup> Law of the Child Act, art. 82; Employment and Labour Relations Act, art. 5(3); The Mining (Environmental Protection for Small Scale Mining) Regulations, art. 15.

regulations of the Law of the Child Act, which names and prohibits many forms of labor, including small-scale mining and commercial sexual exploitation.<sup>144</sup>

In June 2009, the Tanzanian government launched a National Action Plan for the Elimination of Child Labor.<sup>145</sup> Under the leadership of the Ministry of Labour and Employment, this ambitious plan aims to reduce the worst forms of child labor in all sectors in the short term, and to eliminate all child labor in the long-term.<sup>146</sup> However, four years later, the government has yet to adequately implement the plan.

A number of government actors are tasked with monitoring and withdrawing children from hazardous labor, but have taken limited action to enforce the laws and policies described above.

At the national level, the Regional Administration and Local Government in the Prime Minister's Office (PMORALG) chairs the National Intersectoral Coordination Committee on Child Labour, which brings together government ministries, social partners, and civil society organizations to highlight child labor issues and strengthen structures to eliminate child labor.<sup>147</sup> The committee meets twice a year and held its last meeting in December, 2012.<sup>148</sup> The Ministry of Energy and Minerals is not a member of the committee, potentially limiting the flow of information to other groups about children involved in mining.<sup>149</sup>

At the district level, the Ministry of Labour and Employment is the lead ministry for enforcing child labor laws, but it rarely conducts child labor inspections on the mines or enforces penalties on employers who hire children. Seventy-one labor officers are supposed to conduct inspections of all formal businesses across the country.<sup>150</sup> During an

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<sup>144</sup> Human Rights Watch telephone interview with representative 2 from the ILO in Tanzania, May 9, 2013, and email correspondence March 22 and 23, 2013.

<sup>145</sup> Ministry of Labour and Employment, "National Action Plan for the Elimination of Child Labor," Dar es Salaam, June 2009.

<sup>146</sup> *Ibid.*, p. 17.

<sup>147</sup> United States Department of Labor (USDOL), "Findings on the Worst Forms of Child Labor," 2011, <http://www.dol.gov/ilab/programs/ocft/2011TDA.pdf> (accessed April 1, 2013), p. 595; Human Rights Watch email correspondence with representative 1 from the ILO in Tanzania, May 8, 2013.

<sup>148</sup> Human Rights Watch email correspondence with representative 1 from the ILO in Tanzania, May 8, 2013.

<sup>149</sup> *Ibid.*

<sup>150</sup> United Republic of Tanzania Ministry of Labour and Employment, Department of Labour, "Annual Labour Administration and Inspection Report 2011/2012," <http://www.kazi.go.tz/wp-content/uploads/2013/03/ANNUAL-LABOUR-ADMINISTRATION-AND-INSPECTION-REPORT.pdf> (accessed May 10, 2013), p. 10.

inspection, a labor officer may withdraw the child from the activity and serve the employer with a compliance order, which stipulates specific steps and timeframes for remedial action.<sup>151</sup> The officer should also report the matter to a social welfare officer and the police.<sup>152</sup> It is an offense to employ or procure a child for employment in a mine and labor officers may initiate proceedings in the Resident's or District Court and prosecute the violator in the name of the labour commissioner.<sup>153</sup> Employers who are found guilty may receive a fine, imprisonment, or both.<sup>154</sup>

Although the Ministry of Labour and Employment appears to have had some success in addressing child labor, labor officers rarely conduct inspections for child labor in small-scale gold mining. During the 2011-2012 reporting period, the Ministry of Labour and Employment only conducted 2,401 inspections in all workplaces, which is 38.7 percent of its target of 6,200 inspections.<sup>155</sup> The Ministry stated that it withdrew 17,243 children and prevented 5,073 children from engaging in the worst forms of child labor during this period.<sup>156</sup> Tanzania has 12 main mining regions, but children were only withdrawn or prevented from entering into the worst forms of child labor in five of these areas.<sup>157</sup> Roughly 91 percent of the children withdrawn from the worst forms of child labor came from Tabora, a gold mining region, but most of them worked in agriculture.<sup>158</sup>

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<sup>151</sup> Law of the Child Act, art. 86(3); The Labour Institutions Act, No. 7 of 2004, <http://www.kazi.go.tz/wp-content/uploads/2011/07/Labour-Institutions-Act-7-2004.pdf> (accessed May 11, 2013), art. 46; Human Rights Watch email correspondence with labor officer, Mwanza, October 16, 2012; Human Rights Watch telephone interview with representative 2 from the ILO in Tanzania, May 9, 2013.

<sup>152</sup> Law of the Child Act, art. 86(3).

<sup>153</sup> The Labour Institutions Act, No. 7 of 2004, <http://www.kazi.go.tz/wp-content/uploads/2011/07/Labour-Institutions-Act-7-2004.pdf> (accessed May 11, 2013), art. 45(1)(a); Employment and Labour Relations Act, arts. 5(3), 5(7).

<sup>154</sup> Employment and Labour Relations Act, art. 102(1)-(2); Human Rights Watch interview with two labor officers, Mbeya, December 7, 2012.

<sup>155</sup> United Republic of Tanzania Ministry of Labour and Employment, Department of Labour, "Annual Labour Administration and Inspection Report 2011/2012," p. 12.

<sup>156</sup> *Ibid.*, p. 22.

<sup>157</sup> Jönsson and Bryceson, "Rushing for Gold," p. 637. (map that identifies the following regions as Tanzania's main gold mining regions: Kagera, Mwanza, Mara, Shinyanga, Tabora, Singida, Rukwa, Mbeya, Tanga. Note the government has created three new regions in these areas: Geita, Simyu, and Katavi); United Republic of Tanzania Ministry of Labour and Employment, Department of Labour, "Annual Labour Administration and Inspection Report 2011/2012," pp. 24-25 (showing Mwanza, Tanga, Shinyanga, Kagera, and Tabora as the five main gold mining regions where children were either withdrawn or prevented from entering into child labor).

<sup>158</sup> United Republic of Tanzania Ministry of Labour and Employment, Department of Labour, "Annual Labour Administration and Inspection Report 2011/2012," pp. 24-25.

The labor offices visited by Human Rights Watch lacked sufficient staff and resources to conduct inspections in mining areas. The Mbeya regional office has only two officers and operates on a limited budget.<sup>159</sup> It only conducts approximately 20 to 25 inspections annually in all sectors, not just mining.<sup>160</sup> In the last two years, Mbeya labor officers only conducted two inspections of artisanal mines in Chunya—these were prompted by complaints of workers about pay, not about child labor.<sup>161</sup> A labor office in Mwanza, with three labor officers, similarly suffered from resource constraints and lacked fuel for transportation to the mining areas in Geita district.<sup>162</sup> A labor officer from Mwanza recalled only visiting small-scale gold mines in Geita district once, as part of a donor-supported child labor project in March 2012.<sup>163</sup>

Labor officers are also failing to take strong action against employers who violate child labor laws. One regional office stated that it had not yet issued a compliance order for child labor.<sup>164</sup> During the 2011-2012 period, only two compliance orders were issued in mining—one in Mwanza and the other in Shinyanga.<sup>165</sup> There have also been very few, if any, recent prosecutions for child labor.<sup>166</sup> According to labor officers, they primarily educate people who employ children about the labor laws and advise them to take remedial action.<sup>167</sup>

Another important entity tasked with monitoring child labor in mining is the Ministry of Energy and Minerals. Mining officials may request a Primary Mining License holder that has hired children to take remedial action or pay a fine.<sup>168</sup>

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<sup>159</sup> Ibid., p. 10.

<sup>160</sup> Human Rights Watch interview with two labor officers, Mbeya, December 7, 2012.

<sup>161</sup> Ibid.

<sup>162</sup> United Republic of Tanzania Ministry of Labour and Employment, Department of Labour, “Annual Labour Administration and Inspection Report 2011/2012,” p. 10; Human Rights Watch interview with labor officer, Mwanza, October 15, 2012.

<sup>163</sup> Human Rights Watch email correspondence with labor officer, Mwanza, October 16, 2012.

<sup>164</sup> Human Rights Watch interview with labor officer, Mwanza, October 15, 2012.

<sup>165</sup> United Republic of Tanzania Ministry of Labour and Employment, Department of Labour, “Annual Labour Administration and Inspection Report 2011/2012,” p. 19.

<sup>166</sup> Fifteen employers were brought before the labor courts between 2011-2012 reporting period and only one was convicted. It does not appear that any of these employers were prosecuted for violating child labor laws. United Republic of Tanzania Ministry of Labour and Employment, Department of Labour, “Annual Labour Administration and Inspection Report 2011/2012,” pp. 20-21; Human Rights Watch interview with two labor officers, Mbeya, December 7, 2012; USDOL, “Findings on the Worst Forms of Child Labor,” pp. 595-596.

<sup>167</sup> Human Rights Watch interviews with labor officer, Mwanza, October 15, 2012, and email correspondence, October 16, 2012; and with two labor officers, Mbeya, December 7, 2012.

<sup>168</sup> The Mining (Environmental Protection for Small Scale Mining) Regulations, arts. 18-19(1).

However, mining offices lack sufficient staff to carry out regular inspections of small-scale mines.<sup>169</sup> One mining official described the shortage of workers as one of the biggest challenges faced by the ministry.<sup>170</sup> Because the Ministry of Energy and Minerals does not have a presence in every district, it has limited monitoring capacity and must sometimes rely on the district commissioner and district executive director, who lead and manage the local government.<sup>171</sup> In particular, the district commissioner and the district executive director play a substantial role in helping to remove miners from large, illegal, gold rush sites.

When the inspectors from the Ministry of Energy and Minerals do visit licensed mines, they tend to prioritize revenue collection and other health and safety issues over the problem of child labor. They visit large and small-scale mines to check for compliance with safety, environmental and other regulations, as well as collect royalties on a regular basis. One mining officer explained:

If someone is given a work to inspect and make sure that there is ... compliance ... that means he must be a law enforcer. At the same time you are given the task to collect revenue. And the prime objective of the government at the end of the day... [is] whether you have attained the target of the collection.... [The government will] judge you according to what you have collected.<sup>172</sup>

In one case, a representative of the Ministry of Energy and Minerals believed that village authorities were responsible for acting on child labor, not mining officials.<sup>173</sup> The government has acknowledged that lack of understanding of child labor laws is a common problem among many government departments.<sup>174</sup>

When mining officials act on child labor, they rarely impose fines on employers. Like labor officers, mine inspectors usually raise awareness about child labor laws with employers or in some cases, issue warnings if they find children on a mining site.<sup>175</sup>

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<sup>169</sup> Human Rights Watch interview with mining official, Chunya town, Chunya district, December 13, 2012.

<sup>170</sup> Ibid.

<sup>171</sup> Ibid.

<sup>172</sup> Ibid.

<sup>173</sup> Ibid.

<sup>174</sup> National Action Plan for the Elimination of Child Labor, p. 7.

<sup>175</sup> Human Rights Watch interviews with a mining official, Mwanza, October 15, 2012, and a mining official, Kahama town, Kahama district, October 19, 2012.

Government actors from the Ministry of Health and Social Welfare, and the Ministry of Community Development, Gender and Children, oversee community development officers and social welfare officers who should raise awareness of child labor issues in mining villages, monitor child labor at the district and village level, and report their findings to the prime minister’s office.<sup>176</sup> However, community development officers in two of the district offices visited by Human Rights Watch were severely short-staffed and often lacked adequate resources to carry out their work.<sup>177</sup>

Finally, at the village level, village authorities have no responsibility to enforce child labor laws, but can adopt legally enforceable bylaws to help to discourage child labor. None of the villages visited by Human Rights Watch had such bylaws in place. Also, according to village authorities in Kahama district, it is difficult to impose village laws on migrant populations in the area.<sup>178</sup>

### **Unchecked Unlicensed Mines**

Mining and labor officials also seldom conduct child labor inspections on unlicensed gold mines. Twenty-eight of the children interviewed by Human Rights Watch worked on unlicensed gold rush sites, suggesting they are significant sources of child labor.

Labor officers are authorized to enter any “premises” for inspection—which could theoretically include businesses in the informal sector.<sup>179</sup> However, labor officers infrequently inspect informal businesses.<sup>180</sup>

Mining officials sometimes visit unlicensed sites to address legal, security, and safety concerns, and to collect taxes— but generally not to look for children.<sup>181</sup> A mining official in Chunya district explained, “Sometimes we do go there [to unlicensed mines] and find

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<sup>176</sup> USDOL, “Findings on the Worst Forms of Child Labor,” p. 595.

<sup>177</sup> Human Rights Watch interviews with a community development officer, Geita town, Geita district, October 12, 2013, and a community development officer, Chunya town, Chunya district, December 13, 2012.

<sup>178</sup> Human Rights Watch interview with teacher, Mwabomba, Kahama district, October 18, 2012.

<sup>179</sup> The Labour Institutions Act, No. 7 of 2004, <http://www.kazi.go.tz/wp-content/uploads/2011/07/Labour-Institutions-Act-7-2004.pdf> (accessed May 11, 2013), art. 45(1)(a); Human Rights Watch telephone interview with representative 2 from the ILO in Tanzania, May 9, 2013.

<sup>180</sup> Human Rights Watch telephone interview with representative 1 from the ILO, May 3, 2013; Human Rights Watch telephone interview with representative 2 from the ILO in Tanzania, May 9, 2013.

<sup>181</sup> Human Rights Watch interview with mining official, Kahama town, Kahama district, October 19, 2012, and a mining official Chunya town, Chunya district, December 13, 2012.

out ... where they are actually working illegally, to inform the owner ... If we find that the situation is somehow serious and might cause a risk and death to them, we might tell them to stop.”<sup>182</sup> Mining officials are sometimes wary of visiting unlicensed mines because they do not want to appear to provide the site official recognition and legitimacy.<sup>183</sup>

The Tanzanian government recognizes the need to formalize and professionalize the artisanal mining sector and has embarked on a formalization program. This includes efforts to free up land for unlicensed miners, because there are currently few areas remaining where miners can apply for a mining license.<sup>184</sup> But formalization is a long process. In the interim, the Ministry of Labour and Employment should exercise some oversight over unlicensed mines and, during informal visits, officials from the Ministry of Energy and Minerals should check unlicensed sites for children engaged in unlawful child labor.

### **Flawed Government Inspections**

On the few occasions that government officials conduct child labor inspections, they often fail to stop child labor. Human Rights Watch found evidence of at least one government intervention in Kahama district that prompted children to leave the mine and return to school, but others overlooked older adolescents and did not stop children from returning to the mine.

Human Rights Watch visited a gold rush site in Kahama district where, even though they were not required to act under the law, ward and village authorities enforced child labor laws.<sup>185</sup> Enos F., a 13-year-old child working in mining, explained that towards the end of the school holidays, the village government told children to vacate the mines so they could attend classes.<sup>186</sup> Several children returned to school. This intervention may have been successful because village authorities were present to enforce the ban on children in mining.

However, in a number of other cases in Chunya district, government officials failed to identify older children working on the mines and take adequate action to prevent children

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<sup>182</sup> Human Rights Watch interview with mining official, Chunya town, Chunya district, December 13, 2012.

<sup>183</sup> Human Rights Watch interview with mining official, Kahama town, Kahama district, October 19, 2012, and a mining official, Dar es Salaam, October 24, 2012.

<sup>184</sup> Human Rights Watch interview with Fredy A. M. Mahobe, assistant commissioner for small scale mining development, Ministry of Energy and Minerals, Dar es Salaam, October 24, 2012.

<sup>185</sup> Human Rights Watch interview with the ward executive officer, Zongomera ward, Kahama district, October 16, 2012.

<sup>186</sup> Human Rights Watch interview with Enos F., 13, Zongomera Ward, Kahama district, October 16, 2012.

from returning to the mines. Human Rights Watch interviewed inspectors who said they determined the age of a child by looking at the child's appearance. An official from the Ministry of Energy and Minerals said that inspectors "just look" at the child to determine his or her age, and a labor officer said he interviewed children to determine their ages.<sup>187</sup> Many children's births are not registered so officials should conduct rigorous interviews with various people on the mine to determine children's ages. If they do not, children like Rashid A., a 17-year old boy, will work on the mines unnoticed. He explained, "They [officials] are not bothered with me, they think I am big."<sup>188</sup>

Two child laborers told Human Rights Watch that they returned to the mines after a government official inspecting the mines sent them away.<sup>189</sup> In one case, a child identified the official as an inspector from the Ministry of Energy and Minerals.<sup>190</sup> None mentioned receiving assistance to transition out of child labor into school or vocational training. Thirteen-year-old Rahim T. explained, "They chased us and said 'don't come again.' I went again. I work at that particular mine and other places.... If we are chased we go to search for other areas."<sup>191</sup>

### *Inadequate Support for Orphans and Other Vulnerable Children*

Orphans are particularly likely to be involved in the worst forms of child labor, because of inadequate support from guardians or extended family members, and other factors which contribute to their vulnerability such as gender, health status, and remarriage of the surviving parent or caregiver.<sup>192</sup> Like many children, some orphans seek employment in mining to cover their needs. The government should provide greater economic and psychosocial support to orphans and other vulnerable children to curb child labor.

Few orphans and other vulnerable children receive direct assistance from the government. Unable to survive, some seek employment in mining. Each village is

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<sup>187</sup> Human Rights Watch interviews with a mining official, Mwanza, October 15, 2012, and two labor officers, Ministry of Labour and Employment, Mbeya, December 7, 2012.

<sup>188</sup> Human Rights Watch interview with Rashid A., age 17, Chokaa Ward, Chunya district, December 11, 2012.

<sup>189</sup> Human Rights Watch interview with Zaki S., age 13, and Rahim T., age 13, Matundasi Ward, Chunya district, December 10, 2012.

<sup>190</sup> Human Rights Watch interview with Taji J., age 14, Matundasi Ward, Chunya district, December 10, 2012.

<sup>191</sup> Human Rights Watch interview with Rahim T., age 13, Matundasi Ward, Chunya district, December 10, 2012.

<sup>192</sup> UNICEF, "Africa's Orphaned Generations," pp. 6, 15, 30; Evans and Miguel, "Orphans and Schooling in Africa: A Longitudinal Analysis," p. 31; Human Rights Watch, *Letting Them Fail*, p. 39; Whitehouse, "A Situation Analysis of Orphans and Other Vulnerable Children in Mwanza Region, Tanzania," pp. 41-42.

supposed to have a committee to identify vulnerable children.<sup>193</sup> Local government is responsible for addressing community needs but because of the gap in resources, officials often look to local NGOs for assistance.<sup>194</sup> However, even with outside help, demand for support remains high. A 2008 government study found that only 7 percent of orphans and vulnerable children received at least one type of external support, most of which came in the form of school-related assistance.<sup>195</sup> Some of the orphans interviewed by Human Rights Watch used their money to purchase basic necessities such as food, clothing, shelter, and provisions for going to school, such as uniforms and other fees.<sup>196</sup> Joana S., a 15-year-old girl whose parents died when she was very young, said she lived with her older sister and received some support from a local NGO, but still complained of experiencing hunger. She explained that the reason she first went to the mine was “due to the situation at home I had no option. The conditions I was living in ... my sister told me to go.”<sup>197</sup>

The government should support orphans and vulnerable children, and address child labor, by committing adequate resources to social protection strategies, such as income or in-kind support for very poor households, and programs to increase access to services such as healthcare, nutrition and education.<sup>198</sup> In a promising step, the government recently adopted its National Costed Plan of Action for Most Vulnerable Children for 2013 to 2017, led by the Ministry of Health and Social Welfare, in conjunction with other ministries, development partners and stakeholders.<sup>199</sup> This plan is targeted at children living with severe deprivations

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<sup>193</sup> Human Rights Watch interview with social welfare officer and a community development officer, Kahama town, Kahama district, October 19, 2012.

<sup>194</sup> Ibid.

<sup>195</sup> This study examined support in the form of: (1) medical support in the last 12 months which includes medical care, supplies or medicine; (2) emotional support in the last 3 months which includes companionship, counseling from a trained counselor, or spiritual support for which there was no payment; (3) social/material support in the last 3 months which includes help with household work, training for a caregiver, legal services, clothing, food, or financial support for which there was no payment; (4) and school-related assistance in the last 12 months which includes allowance, free admission, books, or supplies for which there was no payment for ages 5-17 years. Tanzania Commission for AIDS (TACAIDS) et al. “Tanzania HIV/AIDS and Malaria Indicator Survey 2007-08,” 2008, <http://www.tacaids.go.tz/dmdocuments/THMIS%202007-08.pdf> (accessed March 19, 2013), pp. 160-161.

<sup>196</sup> Human Rights Watch interviews with social welfare officer and community development officer, Kahama town, Kahama district, October 19, 2012; with Fumo D., 15, Nyarugusu Ward, Geita district, October 14, 2012; with Elimu A, 15, and Erevu B., 12, Matundasi Ward, Chunya district, December 9, 2012.; with Taji J., 14, Matundasi Ward, Chunya district, December 10, 2012; and with Dahlia A., age 10, Jane S., age 10, Laura P., age 10, Joana S., age 15, Raiya S., age 14, Chokaa Ward, Chunya district, December 12, 2012.

<sup>197</sup> Human Rights Watch interview with Joana S., age 15, Chokaa Ward, Chunya district, December 12, 2012.

<sup>198</sup> See “Social and Economic Policy,” UNICEF, accessed March 23, 2013, [http://www.unicef.org/socialpolicy/index\\_socialprotection.html](http://www.unicef.org/socialpolicy/index_socialprotection.html).

<sup>199</sup> Ministry of Health Social Welfare and Department of Social Welfare, “National Costed Plan of Action for Most Vulnerable Children (MVC) II,” Dar es Salaam, December 2012 (on file with Human Rights Watch). The total cost of the Plan is US\$210.5 million over the five-year period.

such as orphans and children engaged in the worst forms of child labor. Some of its key objectives include strengthening the capacity of households and communities to protect, care, and support the most vulnerable children, providing a regulatory framework for a child protection system, expanding access to health and education, and strengthening coordination, leadership, policy and service delivery.<sup>200</sup> However, at the time of writing, the government had yet to provide funding to implement the plan.

Although limited in scope, another promising initiative is the third Tanzania Social Action Fund (TASAF III) which provides grants and conditional cash transfers to vulnerable populations. President Kikwete launched TASAF III, supported by the World Bank, the United States Agency for International Development (USAID), and the United Nations Children’s Fund (UNICEF) in August 2012. TASAF III was designed to provide a community-based cash transfer to certain families living under the poverty line who are able to comply with conditions such as “school attendance for children, regular health check-ups for under-five children and the elderly, incentives for girls to remain in school, incentives for pregnant women to deliver at health facilities, ensuring nutrition for children through information on meal preparation, and micro-nutrient initiative supplements.”<sup>201</sup> The program targets 275,000 households—a small fraction of the Tanzanians who live below the poverty line.<sup>202</sup> During the current phase of TASAF III, the government will provide infrastructure such as schools to support the project.<sup>203</sup> Other aid agencies should commit resources to scale up the program and ensure greater support for orphans and other vulnerable children.

### *Weaknesses in Education Policies*

Weaknesses in the education system contribute to child labor in Tanzania. In particular, the government has failed to abolish unlawful financial contributions at the primary school level and ensure access to post-primary educational opportunities.

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<sup>200</sup> Ibid., pp. 14-15.

<sup>201</sup> World Bank, “Project Information Document, Concept Stage, Tanzania Third Social Action Fund,” February 16, 2011, [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/07/11/000003596\\_20110711121050/Rendered/PDF/Project Information to Concept Stage.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/07/11/000003596_20110711121050/Rendered/PDF/Project%20Information%20to%20Concept%20Stage.pdf) (accessed April 2, 2013), para. 3(b); Human Rights Watch telephone interview with social protection specialist, World Bank, April 26, 2013.

<sup>202</sup> Human Rights Watch telephone interview with social protection specialist, World Bank, April 26, 2013.

<sup>203</sup> Ibid.

## Failure to Eliminate Primary School Contributions and Expenses

Even though the National Education Act and the 2002-2006 Education Development Plan have secured children's rights to a free and compulsory primary education, in practice children must pay a range of illegal contributions and other expenses.<sup>204</sup> With roughly 67.9 percent of the population living below the international poverty line of US\$1.25 per day, many parents may struggle with even small school-related expenses.<sup>205</sup> These costs can cause children to seek additional income from the mines and can contribute to their dropping out of school.

Primary school children pay for items such as desks, food, and security guards. Eleven children who worked in mining in Chunya, Kahama, and Geita districts told Human Rights Watch that they spent part of their money on school supplies such as exercise books, pens, and uniforms. Staff at several primary schools in Chunya district and a student in Geita district stated that they charged students fees for desks, security guards, and meals. A recent study shows that at least one school required children to provide a contribution for food and building projects.<sup>206</sup> At three primary schools in Chunya district, Human Rights Watch found that when children enrolled, they had to pay a onetime "desk fee" ranging from the equivalent of US\$6.14 to \$24.56.<sup>207</sup> Two of the primary schools also charged students for a security guard.<sup>208</sup>

In some cases, school expenses discouraged children from enrolling or caused them to drop out of primary school. Teachers from a primary school in Nyarugusu explained, "We

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<sup>204</sup> The National Education Act, No. 25 of 1978, <http://polis.parliament.go.tz/PAMS/docs/25-1978.pdf> (accessed April 16, 2013), art. 35. (1); Ministry of Education and Culture, "Education Sector Development Programme, Primary Education Development Plan (2002-2006)," July 2011, [http://www.ed-dpg.or.tz/pdf/PE/Primary%20Education%20Development%20Plan-PEDP%20L\\_2000-06.pdf](http://www.ed-dpg.or.tz/pdf/PE/Primary%20Education%20Development%20Plan-PEDP%20L_2000-06.pdf) (accessed April 16, 2013), p.5 (which highlights that under the 2002-2006 Primary Education Development Plan, the government eliminated primary school fees and contributions); United Nations Educational, Scientific and Cultural Organization (UNESCO), "Tanzania Education Sector Analysis, Executive Summary," 2011, <http://unesco.atlasproject.eu/unesco/details/en/details.html?ci=79498a79-4c1a-4c73-89f9-1e39c989bbf5> (accessed February 18, 2013), p. 9.

<sup>205</sup> "International Human Development Indicators, MPI: Population living below \$1.25 PPP per day (%)," UNDP, accessed February 28, 2013, <http://hdrstats.undp.org/en/indicators/38906.html>. This figure is from 2007.

<sup>206</sup> Frances Vavrus and Goodiel Moshi, "The Cost of a 'Free' Primary Education in Tanzania Teachers College," *International Critical Childhood Policy Studies*, vol.2 (1), (2009), pp. 37-38.

<sup>207</sup> Human Rights Watch interviews with teachers at two different schools, Matundasi Ward, Chunya district, December 10, 2012, and with a teacher at Chokaa Ward, Chunya district, December 12, 2012. Note one of the schools stated that it would try to find desks for students who could not afford the contribution.

<sup>208</sup> Human Rights Watch interviews with Haki E., age 14, Nyarugusu Ward, Geita district, October 14, 2012, and with a teacher Chokaa Ward, Chunya district, December 12, 2012. At one of the schools this cost roughly US\$ 1.85 per year.

carry out outreach with the parents who don't send their kids to school. We have tried, but the outcomes are negative. A large number say they don't have the money to send their children to school.”<sup>209</sup> Haki E., a 14-year-old boy, stated that one of the reasons he left primary school was because of these costs: “I got involved in mining last year, I was 13. I started it to get money for clothes.... I dropped out of school because I could not meet my needs for school – uniform, books, and the contribution to school.”<sup>210</sup>

### **Limited Access to Secondary School or Vocational Training**

Although most children of primary school age in Tanzania are enrolled in primary school, few children continue on to secondary or vocational school.<sup>211</sup> This is partly because many children fail the required Primary School Leaving Exam (PSLE), and because the cost of attending secondary school either deters prospective students' enrollment or causes them to drop out. The government also has a shortage of vocational training opportunities. With no option to continue their studies, children seek full-time employment in various sectors, including mining.

Children are not entitled to attend secondary school in Tanzania—only if they pass the PSLE are they allowed to advance beyond the final grade of primary school. Usually they get only one chance to pass and they are not allowed to retake the exam.<sup>212</sup> During 2011 to 2012, only 58.3 percent of students passed the PSLE.<sup>213</sup> In the schools visited by Human Rights Watch in Geita, Kahama, and Chunya districts, officials told us that between 35.9 and 86.3 percent of students passed the exam and enrolled in secondary school in 2011.<sup>214</sup>

Roughly half of the students who pass the PLSE continue on to secondary school.<sup>215</sup> Many fail to enroll or drop out because of school expenses. Human Rights Watch visited one

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<sup>209</sup> Human Rights Watch interview with three school teachers, Nyarugusu Ward, Geita district, October 12, 2012.

<sup>210</sup> Human Rights Watch interview with Haki E., age 14, Nyarugusu Ward, Geita district, October 14, 2012.

<sup>211</sup> The United Republic of Tanzania, Education Sector Development Committee, “Education Sector Performance Report 2011/2012,” September 2012, [http://www.ed-dpg.or.tz/pdf/ESPR%20and%20AM/JESR%202011-12\\_Education%20Sector%20Performance%20Report.pdf](http://www.ed-dpg.or.tz/pdf/ESPR%20and%20AM/JESR%202011-12_Education%20Sector%20Performance%20Report.pdf) (accessed February 18, 2013), pp. 14-15.

<sup>212</sup> Human Rights Watch interview with education official, Dar es Salaam, October 22, 2012.

<sup>213</sup> The United Republic of Tanzania, Education Sector Development Committee, “Education Sector Performance Report 2011/2012,” p. 29.

<sup>214</sup> Human Rights Watch interviews with an education official, Nyarugusu Ward, Geita district, October 14, 2012; with a teacher, Mwabomba, Kahama district, October 18, 2012; with two teachers at different schools, Matundasi Ward, Chunya district, December 10, 2012; and with a teacher, Chokaa Ward, Chunya district, December 12, 2012.

<sup>215</sup> In 2009, the pass rate for the PSLE was 49.4 percent and 43.9 percent of primary school students transitioned to secondary school during that period. In 2010 the pass rate was 53.5 percent and 52.2 percent of primary school students

secondary school in a mining town that charged the equivalent of \$21.49 per year.<sup>216</sup> Kondo K., a 17-year-old boy who worked on a mine in Mwabomba after passing the Standard 7 exam, explained, “I couldn’t continue because my father had no money to pay for fees, uniform, books. There’s a fee for academics, paper, and my father couldn’t pay. I was supposed to be at Masumba Secondary School.”<sup>217</sup>

In addition to the difficulties in enrolling children in secondary school, the government also faces a shortage of vocational training opportunities. Between the 2011 and 2012 reporting period, the government stated it had approximately 233,795 places at vocational training institutions.<sup>218</sup> Between 2006 and 2010, an average of 402,305 students per year could not join the first year of secondary school.<sup>219</sup> If one also considers the children who drop out from secondary school, it is likely that the demand for vocational education outstrips supply.

Children who do not continue their education beyond primary school often seek full-time employment in sectors such as gold mining and some girls enter into sex work in mining areas. An ILO study in Tanzania found that the largest group of child laborers in gold mining was between the ages of 14 and 17, because they had finished their primary education and had limited educational opportunities thereafter.<sup>220</sup> The head teacher at Mwabomba Primary School explained, “Most children who do not pass Standard 7 [by passing the PSLE] immediately go into mining, grazing, and family activities.”<sup>221</sup> An adult miner in Geita district commented, “Most of the ones [children] that are here failed Standard 7. If they do not come here they are called for other training at the local militia. They are running away from training. They have nothing else to do.”<sup>222</sup>

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transitioned to secondary school during that period. In 2011 the pass rate was 58.3 percent and 53.6 percent of primary school students transitioned to secondary school during that period. The United Republic of Tanzania, Education Sector Development Committee, “Education Sector Performance Report 2011/2012,” pp. 29, 46.

<sup>216</sup> Human Rights Watch interview with teacher at a secondary school, Chokaa Ward, Chunya district, December 11, 2012.

<sup>217</sup> Human Rights Watch interview with Kondo K., age 17, Mwabomba, Kahama district, October 17, 2012.

<sup>218</sup> Folk and Vocational Educational Training facilities offer 121,348 places and technical schools offer 112,447. The United Republic of Tanzania, Education Sector Development Committee, “Education Sector Performance Report 2011/2012,” pp. 15-16.

<sup>219</sup> *Ibid.*, p. 15.

<sup>220</sup> ILO-IPEC, “Tanzania, Children Labour in Mining,” pp. ix-x.

<sup>221</sup> Human Rights Watch interview with teacher, Mwabomba, Kahama district, October 18, 2012.

<sup>222</sup> Human Rights Watch interview with miner, Kaseme Ward, Geita district, October 12, 2012.

## Mercury Use in Gold Mining

The government has failed to enforce mining safety regulations, effectively reduce the use of mercury, and prevent, test, and treat children and adults affected by mercury. Although Tanzania has played a positive role in pushing for the Minamata Convention on Mercury (an international mercury treaty), sought to raise awareness on the dangers of mercury, and adopted laws and regulations to control the purchase and use of mercury, its use in mining continues unabated.

### *Failure to Enforce Protections against Mercury in Mining*

The government rarely enforces regulations that require miners to take precautions when using mercury.

Tanzania's National Environmental Management Act and Mining Regulations both address the use of mercury in licensed small-scale gold mining.<sup>223</sup> The National Environment Management Act stipulates that anyone generating hazardous waste will be responsible for its disposal and liable for any damage to human health, living beings, and the environment.<sup>224</sup> Under the Mining Regulations, a Primary Mining License (PML) holder must:<sup>225</sup>

- Conduct an environmental and social investigation and submit an Environmental Protection Plan to a zonal mines office prior to starting mining work. In the plan, the PML holder must describe his mining and processing methods, emissions and discharges, waste disposal strategy, and how he will use and store chemicals.
- Dispose of tailings in a manner approved by an inspector.
- Use a retort when burning the mercury-gold amalgam. Retorts are devices that contain and condense the mercury vapor and, if used properly during extraction, allow miners to recycle up to 95 percent of the mercury.<sup>226</sup>

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<sup>223</sup> Vice President's Office, Division of the Environment, "National Strategic Plan for Mercury Management in Tanzania," Dar es Salaam, 2009, art. 2.3 (on file with Human Rights Watch); The Mining (Environmental Protection for Small Scale Mining) Regulations.

<sup>224</sup> The Environmental Management Act, No. 20 of 2004, <http://www.revenuewatch.org/sites/default/files/The%20Environmental%20Management%20Act.pdf> (accessed March 21, 2013), art. 135(3).

<sup>225</sup> See The Mining (Environmental Protection for Small Scale Mining) Regulations, arts. 3, 10(1), 12, 14, 17 Schedules, Content of Environmental Protection Plan, p.7.

<sup>226</sup> Jönsson, Appel, and Chibunda, "A Matter of Approach," p. 78; UNIDO, "UNIDO Technical Guidelines on Mercury Management in Artisanal and Small-Scale Gold Mining," April 2008, [www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/ASGM/UNIDO%20Guidelines%20on%20Mercury%20Management%20Aprilo8.pdf](http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/ASGM/UNIDO%20Guidelines%20on%20Mercury%20Management%20Aprilo8.pdf) (accessed February 21, 2013).

- Provide employees with protective gear.
- Construct washing or settling ponds—areas where amalgamation may take place—at least 50 meters from water sources.

Unfortunately, the government has largely failed to enforce these mining provisions. A study published in August 2012 stated that some zonal mine offices found it difficult to enforce the requirement for an environmental protection plan.<sup>227</sup> Only one out of the eleven mining sites visited by Human Rights Watch used retorts to occasionally burn gold. Some miners were reluctant to use gloves because they thought particles of gold stuck to the gloves.<sup>228</sup> Additionally, one local study found that miners did not use protective gear because it was not sold in mining areas.<sup>229</sup>

If PML holders fail to take the necessary safety precautions, the government may require them to either take reasonable measures to mitigate the impact of the breach, or pay a fine of up to 100,000 TSh (roughly US\$61.98).<sup>230</sup> Human Rights Watch found no evidence of inspectors taking either of these actions. One official suggested this was because the Ministry lacked the capacity to enforce the regulations:

You are supposed to use a retort. But then the capacity to supervise that is very, very difficult. You cannot expect the three mineral officers located in Chunya, trying to receive the application, trying to do all the small dispute resolutions, trying to move around to see what the big mines are doing, trying to move around to see what the prospecting companies are doing, and at the same time to have them trying to chase those who are burning.<sup>231</sup>

Other departments with the capacity to monitor mercury use also described difficulties conducting inspections in mining areas due to lack of transportation.<sup>232</sup> Some officers from important divisions also had little knowledge of the dangers of mercury. An inspector from

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<sup>227</sup> Sørensen, “Informing the People,” p. 21.

<sup>228</sup> Human Rights Watch interview with miner, Nyarugusu Ward, Geita district, October 11, 2012.

<sup>229</sup> Agenda, “Study on Impact of Mercury Use,” p. 32.

<sup>230</sup> The Mining (Environmental Protection for Small Scale Mining) Regulations, art. 19(1).

<sup>231</sup> Human Rights Watch interview with mining official, Chunya town, Chunya district, December 13, 2012.

<sup>232</sup> Human Rights Watch interview with OSHA inspector, Ministry of Labour and Employment, Mbeya, December 7, 2012, and an inspector at the Government Chemist Laboratory Agency (GCLA), Mbeya, December 14, 2012.

the Occupational Health and Safety Authority (OSHA) told Human Rights Watch: “We need more education and training to know the effects of cyanide and mercury... [to] know what to do.... Without being trained we cannot know or understand.”<sup>233</sup>

### *Failure to Adopt and Implement the National Strategic Plan for Mercury Management*

Despite taking steps in October 2009 to develop a National Strategic Plan for Mercury Management, three-and-a-half years later, the government has yet to launch and implement the plan. One government official indicated that limited funding may have contributed to the delay.<sup>234</sup>

The Mercury Plan outlines activities to reduce and manage mercury emissions from 2010 to 2014 at a cost of about \$3 million.<sup>235</sup> It aims to manage mercury emissions in a number of areas, including small-scale gold mining by, for example, collecting data from sites that emit mercury, raising awareness on the hazards of mercury, and introducing mercury-free technology to extract gold.<sup>236</sup> The plan also seeks to minimize intentional mercury use and to improve the management of mercury waste.<sup>237</sup>

The government should ratify the Minamata Convention on Mercury and revise the Mercury Plan in accordance with treaty provisions. The treaty will require governments to develop “[s]trategies to prevent the exposure of vulnerable populations, particularly children and women of child-bearing age, especially pregnant women, to mercury used in artisanal and small-scale gold mining.”<sup>238</sup> Under the convention, governments will have to eliminate particularly harmful practices of mercury use in mining, such as burning the amalgam in the open and in residential areas.<sup>239</sup> The treaty also promotes appropriate health care services and health professional capacity to address mercury exposure.<sup>240</sup> The government

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<sup>233</sup> Human Rights Watch interview with OSHA inspector, Ministry of Labour and Employment, Mbeya, December 7, 2012.

<sup>234</sup> Human Rights Watch interview with official from the Department of Environment, Vice President's Office, Dar es Salaam, October 23, 2012.

<sup>235</sup> National Strategic Plan for Mercury Management in Tanzania, pp. v-vi and arts. 1.2 and 1.3.

<sup>236</sup> *Ibid.*, p. v.

<sup>237</sup> *Ibid.*, p. vi.

<sup>238</sup> See UNEP, “Draft Minamata Convention on Mercury,” UNEP(DTIE)/Hg/INC.5/7, March 14, 2013, [http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/INC5/5\\_7\\_e\\_annex\\_advance.pdf](http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/INC5/5_7_e_annex_advance.pdf) (accessed August 1, 2013), annex C (1)(i). The treaty will be formally adopted and opened for signature and ratification at a diplomatic conference in Japan in October 2013.

<sup>239</sup> *Ibid.*, annex C (1)(b).

<sup>240</sup> *Ibid.*, art. 16., annex C(1)(h).

should launch the plan as soon as possible, prioritize ending the most harmful practices, and provide political and financial support to implement the plan.

### *Lack of a Comprehensive Health Strategy to Prevent and Address Mercury Exposure*

The government has failed to put in place a comprehensive strategy to address the health effects of mercury through health prevention and treatment. A well-rounded health strategy on mercury should include: the identification and targeting of at-risk communities, awareness-raising, periodic biomonitoring, policies to improve access to testing and treatment for mercury exposure, and policies to strengthen the health professional capacity to prevent, diagnose and monitor treatment of mercury compounds.<sup>241</sup> In resource-constrained settings, the government should focus on efforts to reduce exposure and train health officials to recognize symptoms of extreme mercury poisoning.

The government does not conduct regular data-gathering of mercury levels in mining communities or the broader population. This limits its ability to identify at-risk populations and monitor government strategies. The Government Chemist Laboratory Agency (GCLA) only collects samples from a particular area after an accident has taken place or to inform government decision-making.<sup>242</sup>

The government also has no systematic strategy for awareness-raising and training. Representatives from the Ministry of Energy and Minerals, the GLCA, OSHA, and the Department of the Environment have conducted some training programs for miners on mercury and cyanide, some of which have been open to health officials or the broader community.<sup>243</sup> However, the GCLA, and possibly others, only conduct trainings when funding is available.<sup>244</sup> The government should prioritize and devote resources to a targeted campaign to reduce worst practices.

Moreover, the Tanzanian healthcare system is ill-equipped to prevent, treat, and diagnose mercury intoxication. Most health facilities in Tanzania cannot test for or treat mercury

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<sup>241</sup> Ibid.

<sup>242</sup> Human Rights Watch interviews with officials from the GCLA, Dar es Salaam, October 9, 2012, and an official from the GCLA, Geneva, January 17, 2013.

<sup>243</sup> Human Rights Watch interview with official from the GCLA, Geneva, Switzerland, January 17, 2013; officials from the GCLA, Dar es Salaam, October 9, 2012; and an inspector at GCLA, Mbeya, December 14, 2012.

<sup>244</sup> Human Rights Watch interview with officials from the GCLA, Dar es Salaam, October 9, 2012.

poisoning. Additionally, health issues related to mercury are currently not part of the curriculum for medical workers, though the government said it is committed to introducing this training.<sup>245</sup> Only one group of medical officials among the five health facilities visited by Human Rights Watch in Kahama, Chunya, and Geita districts received some information on mercury as part of a broader training conducted by a large-scale mining company.<sup>246</sup> Few of the medical staff knew how to identify and treat symptoms of mercury poisoning.

When Human Rights Watch asked medical officials at a dispensary in Matundasi Ward, a mining area in Chunya district, whether they were familiar with any of the symptoms of mercury poisoning they explained, “Actually we know mercury, but [we] don’t know the symptoms.”<sup>247</sup> Similarly, a clinical officer at a dispensary in Nyarugusu Ward in Geita district stated she was not an expert and knew little about mercury poisoning.<sup>248</sup> Medical officials from Chunya District Hospital expressed concern that they might be failing to diagnose people suffering from mercury poisoning because of their lack of knowledge about mercury.<sup>249</sup> In a promising development, the government, in partnership with the World Health Organization, is in the process of establishing a national and regional poison center which may help to address severe cases of mercury exposure.<sup>250</sup>

### *Failure to Take Action on the Illegal Mercury Trade*

The government has failed to curb the illegal trade of mercury. The Industrial Chemical and Consumer Chemicals (Management and Control) Act requires those intending to import, export, transport, store, and deal in chemicals to register specified quantities of mercury with the Chief Government Chemist.<sup>251</sup> However, most of the mercury used in artisanal and small-scale gold mining is purchased and traded illegally, without registration. Human Rights Watch interviewed officials at the GCLA who said it was rare to receive a request with mercury.<sup>252</sup> A study conducted by a Tanzanian NGO found that most of the mercury

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<sup>245</sup> Human Rights Watch interview with official from the GCLA, Geneva, Switzerland, January 17, 2013.

<sup>246</sup> Human Rights Watch interviews with medical officers, Kahama town, Kahama district, October 16, 2012, and medical officers, Chunya town, Chunya district, December 13, 2012.

<sup>247</sup> Human Rights Watch interview with medical officers, Matundasi Ward, Chunya district, December 10, 2012.

<sup>248</sup> Human Rights Watch interview with clinical officer, Nyarugusu Ward, Geita district, October 11, 2012.

<sup>249</sup> Human Rights Watch interview with medical officers, Chunya town, Chunya district, December 13, 2012.

<sup>250</sup> Human Rights Watch interview with official from the GCLA, Geneva, Switzerland, January 17, 2013.

<sup>251</sup> Industrial Chemical and Consumer Chemicals (Management and Control) Act, arts. 11-15.

<sup>252</sup> Human Rights Watch interview with officials from the GCLA, Dar es Salaam, October 9, 2012.

used in small-scale mining is purchased illegally.<sup>253</sup> The government has also acknowledged that illegal importation of mercury takes place.<sup>254</sup> Some traders told Human Rights Watch that they sell mercury directly to children.<sup>255</sup>

Gold traders and other businessmen bring mercury into Tanzania from border countries. Human Rights Watch conducted interviews with miners and traders who stated that their mercury came from a range of sources such as the Kenyan health sector, and from traders from Zimbabwe, Malawi, and Zambia.<sup>256</sup> Sometimes Tanzanian traders travel across the border to purchase mercury. The GCLA in Mbeya stated they had three inspectors checking for chemicals on the Malawian and Zambian borders, and on the border of Lake Tanganyika.<sup>257</sup>

An employee of a gold trader and a government official said that mercury could be purchased within Tanzania from government hospitals. Mercury is sometimes used in dental amalgam, hospital equipment, and laboratory chemicals.

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<sup>253</sup> Agenda, “Study on Impact of Mercury Use,” p. 8.

<sup>254</sup> National Strategic Plan for Mercury Management in Tanzania, pp. iv-v.

<sup>255</sup> Human Rights Watch interview with gold traders, Chunya town, Chunya district, December 11 and 13, 2012.

<sup>256</sup> Human Rights Watch interviews with a primary mining license holder, Geita town, Geita district, October 12, 2012; with a trader, Chunya town, Chunya district, December 11, 2012; and with a trader, Chunya town, Chunya district, December 13, 2012.

<sup>257</sup> Human Rights Watch interview with inspector at the GCLA, Mbeya, December 14, 2012. The following countries border Tanzania: Burundi, the Democratic Republic of the Congo, Kenya, Malawi, Mozambique, Rwanda, Uganda, and Zambia.

## IV. The Role of the International Community

Currently, despite broad international support for Tanzania's mineral sector and efforts to reduce child labor in other sectors such as agriculture and domestic work, few donor initiatives specifically target child labor or mercury use in small-scale gold mining.

### World Bank Support of Small-Scale Gold Miners and Vulnerable Children

The World Bank plays a critical role in supporting small-scale gold miners and vulnerable children in Tanzania.

The Bank is developing Tanzania's mining industry through the Sustainable Management of Mineral Resources Project (SMMRP). The SMMRP runs from June 2009 to June 2014 and aims to strengthen the government's ability to manage the mineral sector, to improve the socioeconomic impacts of large and small-scale mining, and to enhance private investment.<sup>258</sup> In a February 2013 assessment, the World Bank's progress towards achieving these goals was deemed "moderately satisfactory," and implementation of the SMMRP was behind schedule.<sup>259</sup>

Under the SMMRP, the World Bank does not actively target child labor or measure the impact of its initiatives on this problem. Prior to implementation, the World Bank assessed the potential benefits and risks of the project, but it did not identify child labor as an issue.<sup>260</sup> The Bank believes that child labor primarily occurs on unlicensed, informal mines, which operate outside of Tanzania's legal framework.<sup>261</sup> Rather than support specific child

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<sup>258</sup>Tanzania, Projects and Operations, Sustainable Management of Mineral Resources," World Bank, accessed April 3, 2013, <http://www.worldbank.org/projects/P096302/sustainable-management-mineral-resources?lang=en>.

<sup>259</sup>The World Bank, "Implementation Status & Results, Tanzania, Sustainable Management of Mineral Resources," February 26, 2013, [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/SDN/2013/02/26/090224b0819628cd/1\\_0/Rendered/PDF/Tanzania000SusoReport000Sequence007.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/SDN/2013/02/26/090224b0819628cd/1_0/Rendered/PDF/Tanzania000SusoReport000Sequence007.pdf) (accessed May 12, 2013).

<sup>260</sup> See Centre for Energy, Environment, Science & Technology (CEEST), "Environmental and Social Management Framework and Initial Scoping Study for the Strategic Environmental and Social Assessment for the Sustainable Management of Mineral Resources Project (SMMRP)," April 2009, [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2009/04/22/000334955\\_20090422054705/Rendered/PDF/E21380EA0AFR1E10Box338888B01PUBLIC1.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2009/04/22/000334955_20090422054705/Rendered/PDF/E21380EA0AFR1E10Box338888B01PUBLIC1.pdf) (accessed June 26, 2013), p. 72-84. Under section 1.12 on the 'Identification, Assessment of Impacts and Proposed Mitigation Measures', the Management Framework fails to identify the impact of child labor.

<sup>261</sup> Human Rights Watch telephone interview with Philippe Dongier, World Bank country director for Burundi, Tanzania, and Uganda, June 26, 2013.

labor projects, the World Bank aims to address this and other issues through encouraging, advocating, and supporting formalization—the process of licensing and regulating small-scale mines.<sup>262</sup> The impact of this strategy is not clear because child labor is not measured in the SMMRP monitoring and evaluation instruments.<sup>263</sup> Moreover, Human Rights Watch has documented children working in licensed gold mines.

Despite limited engagement on child labor, the SMMRP's efforts to address mercury abatement are more promising. Prior to the implementation of the SMMRP, the World Bank identified mercury as a potential polluter of the soil and water near mining areas.<sup>264</sup> However, it did not identify or develop strategies to mitigate the health hazards associated with mercury exposure or poisoning.<sup>265</sup>

The SMMRP includes initiatives that both directly and indirectly support mercury abatement, though their impact is unclear. For example, the World Bank is preparing guidelines and codes of practice on various issues including mercury reduction.<sup>266</sup> It also supports several environmental programs, such as efforts to strengthen the Environmental Management Unit, conduct environmental and social awareness programs, and improve environmental monitoring capacity, which could help to reduce mercury exposure.<sup>267</sup>

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<sup>262</sup> Ibid.

<sup>263</sup> See The World Bank, "Project Appraisal Document on a Proposed Credit in the Amount of SDR 33.5 Million (US\$50 Million Equivalent) to the United Republic of Tanzania for a Sustainable Management of Mineral Resources Project," March 13, 2009, [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2009/05/20/000333037\\_20090520044020/Rendered/PDF/479260PADoPo96101OfficialUseOnly1.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2009/05/20/000333037_20090520044020/Rendered/PDF/479260PADoPo96101OfficialUseOnly1.pdf) (accessed May 12, 2013), Annex 3, Results Framework and Monitoring; The World Bank, "Implementation Status & Results, Tanzania, Sustainable Management of Mineral Resources," February 26, 2013, [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/SDN/2013/02/26/090224b0819628cd/1\\_0/Rendered/PDF/Tanzania000SusoReport000Sequence007.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/SDN/2013/02/26/090224b0819628cd/1_0/Rendered/PDF/Tanzania000SusoReport000Sequence007.pdf) (accessed May 12, 2013); The World Bank, "Implementation Status & Results, Tanzania, Sustainable Management of Mineral Resources," July 24, 2012, [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/SDN/2012/07/24/53B7A9E180799F9085257A45004B7129/1\\_0/Rendered/PDF/ISRoDisclosablo24201201343137441366.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/SDN/2012/07/24/53B7A9E180799F9085257A45004B7129/1_0/Rendered/PDF/ISRoDisclosablo24201201343137441366.pdf) (accessed May 12, 2013); The World Bank, "Implementation Status & Results, Tanzania, Sustainable Management of Mineral Resources," September 7, 2011, [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/SDN/2011/12/26/B550Co611649000485257972006C65CF/1\\_0/Rendered/PDF/Po963020ISRoDio26201101324928639433.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/SDN/2011/12/26/B550Co611649000485257972006C65CF/1_0/Rendered/PDF/Po963020ISRoDio26201101324928639433.pdf) (accessed May 12, 2013); The World Bank, "Implementation Status & Results, Tanzania, Sustainable Management of Mineral Resources," August 24, 2011, [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/SDN/2011/09/07/46DCo28F217970068525790400776F61/1\\_0/Rendered/PDF/Po963020ISRoDio07201101315431873184.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/SDN/2011/09/07/46DCo28F217970068525790400776F61/1_0/Rendered/PDF/Po963020ISRoDio07201101315431873184.pdf) (accessed May 12, 2013).

<sup>264</sup> CEEST, "Environmental and Social Management Framework," p. 78-79.

<sup>265</sup> Ibid.

<sup>266</sup> The World Bank, "Project Appraisal Document," para. 31; Human Rights Watch telephone interview with the World Bank task team leader for the SMMRP, April 29, 2013.

<sup>267</sup> The World Bank, "Project Appraisal Document," paras. 31, 48.

Moreover, the SMMRP grants program aims to promote either alternative livelihoods, or safe, environmentally sound, and economically sustainable mining (through, for example, promoting the use of safe mining and processing methods).<sup>268</sup> As with child labor, the World Bank also views formalization as a way to improve mining safety and reduce mercury exposure.<sup>269</sup> However, because some of the environmental programs only recently came underway,<sup>270</sup> and because the World Bank does not directly measure how its initiatives are impacting mercury use and exposure,<sup>271</sup> it is unclear what impact these initiatives have on mercury abatement.

Recently, the World Bank has been involved in a new initiative which provides various actors an opportunity to direct funds to combat child labor and mercury exposure. The Bank, Tanzanian government, and private companies are members of a multi-stakeholder partnership (MSP) to support the formalization and development of artisanal mining.<sup>272</sup> The partnership held its first meeting in November 2012 and will launch two pilot projects later this year.<sup>273</sup> At the time of writing, partners were still defining their pilot project activities.

The World Bank is also involved in funding the third Tanzania Social Action Fund (TASAF III-described in the section on “Inadequate Support for Orphans and Other Vulnerable Children”), which provides cash transfers to certain families living below the poverty line in exchange for compliance with conditions such as ensuring their children attend school. Although the program is currently limited in scope, it can play an important role in increasing school attendance and ensuring children do not become involved in child labor.

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<sup>268</sup> *Ibid.*, para. 36; Human Rights Watch email correspondence with the World Bank task team leader for the SMMRP, April 29, 2013.

<sup>269</sup> Human Rights Watch telephone interview with Philippe Dongier, World Bank country director for Burundi, Tanzania, and Uganda, June 26, 2013.

<sup>270</sup> Human Rights Watch telephone interview and email correspondence with the World Bank task team leader for the SMMRP, April 29, 2013; Human Rights Watch telephone interview with World Bank mining specialist, May 8, 2013.

<sup>271</sup> The World Bank, “Project Appraisal Document,” Annex 3, Results Framework and Monitoring. Note some of the outcomes in the World Bank Results Framework rely on indicators that indirectly measure mercury exposure. Specifically, to measure the improved technical and environmental performance of small-scale and artisanal miners, the World Bank monitors a number of factors including the increase in environmental plans (which require miners to develop some strategy to manage mercury). It also measures the capacity for management of environmental and social issues in mining through the development of specific environmental and social policies (which may target mercury).

<sup>272</sup> Human Rights Watch telephone interview with the World Bank task team leader for the SMMRP, April 29, 2013.

<sup>273</sup> Human Rights Watch telephone interview with World Bank mining specialist, May 8, 2013.

## International Labour Organization, Donor, and Local NGO Support of Child Labor Initiatives

Few international organizations working in Tanzania focus on child labor in gold mining. Past initiatives include the International Labour Organization's International Programme on the Elimination of Child Labour (ILO-IPEC) which, through assistance from the United States Department of Labor, ran from 2001 to 2010. It reportedly withdrew 29,000 child laborers from mining, commercial agriculture, commercial sexual exploitation, and domestic work.<sup>274</sup> From 2008 to 2009, the final major years of the project, the extra ILO budget for technical cooperation in Tanzania was US\$4,575,577.<sup>275</sup> The current budget is far smaller.<sup>276</sup> For 2012 to 2013, the ILO in Tanzania received only \$153,000 from the Brazilian Cooperation Agency to support capacity building and implementation of the National Action Plan for the Elimination of Child Labour.<sup>277</sup> The United States Department of Labor is currently focusing on funding NGOs to support child labor programs in agriculture and domestic service.<sup>278</sup>

Despite the limited engagement by international organizations on child labor in gold mining, some non-governmental groups, including Plan International and other smaller NGOs are involved.<sup>279</sup> Moreover, some donors support efforts to strengthen education and social protection systems in Tanzania, helping to reduce some of the causes of child labor. In particular, Sweden, the United Kingdom Department for International Development (DFID), the World Bank, and USAID provide funding for education initiatives, and UNICEF provides support for developing child protection systems.<sup>280</sup>

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<sup>274</sup> "Project Status- Africa," USDOL, accessed April 2, 2013, [http://www.dol.gov/ilab/projects/sub-saharan\\_africa/project-africa.htm](http://www.dol.gov/ilab/projects/sub-saharan_africa/project-africa.htm); Human Rights Watch interview with Mkama Nyamwesa, Ministry of Labour and Employment, Dar es Salaam, October 8, 2012.

<sup>275</sup> ILO, "IPEC Action against Child Labour: Progress and Future Priorities 2006-2007," February 2008, <http://www.ilo.org/ipecinfo/product/viewProduct.do?productId=7650> (accessed April 19, 2013), p. 98.

<sup>276</sup> ILO, "IPEC Action against Child Labour 2010-2011: Progress and Future Priorities," February 2012, <http://www.ilo.org/ipecinfo/product/download.do?type=document&id=19735> (accessed April 3, 2013), p. 78.

<sup>277</sup> *Ibid.*, pp. 82, 88; Human Rights Watch interview with representative 1 from the ILO, Dar es Salaam, October 23, 2012 and telephone interview May 3, 2013.

<sup>278</sup> USDOL, "Project to Support Local Efforts to Combat Child Labor in Tanzania," August 2012, <http://www.dol.gov/ilab/grants/SGA12-15.pdf> (accessed April 2, 2013). USDOL awarded \$10 million to The International Rescue Committee, in partnership with World Vision, the Foundation for Civil Society, Kiota Women's Health Development, the Tanga Youth Development Association and The Institute for Development Studies at the University of Dar es Salaam to work on child labor in agriculture and domestic service.

<sup>279</sup> Plan International is one of the few international non-governmental organizations that works specifically on child labor in gold mining in Geita district. Some smaller local NGOs in mining areas also work on child labor in mining, or may touch on this issue through their support for orphans and other vulnerable children.

<sup>280</sup> "Sweden Development Cooperation with Tanzania," Embassy of Sweden, accessed April 2, 2013, <http://www.swedenabroad.com/en-GB/Embassies/Dar-es-Salaam/Development-Cooperation/Sweden--Tanzania/>; "What

## Global Mercury Project and other Local NGO Support for Mercury Abatement

As with child labor in gold mining, few international organizations work to reduce mercury exposure. From 2002 to 2007, the Global Mercury Project (GMP) launched the biggest mercury initiative in Tanzania funded by United Nations Industrial Development Organization (UNIDO), the Global Environment Facility (GEF), and the United Nations Development Programme (UNDP). The project aimed to reduce mercury pollution, introduce cleaner gold extraction methods, and monitor mercury pollution.<sup>281</sup> It targeted areas adjacent Lake Victoria such as areas in Geita district.<sup>282</sup> According to UNIDO, by the end of the project, gold miners and buyers in the two areas were using 98 retorts.<sup>283</sup> However, researchers returning to the project site a few years later found that very few miners had continued to use the retorts or take other safety precautions.<sup>284</sup> Today, mercury abatement in mining is led by local non-governmental organizations.

Donors and other institutions should collaborate with the government to actively address child labor and mercury exposure in small scale gold mining. To be effective, programs should measure their impact on child labor and mercury exposure in their results frameworks.

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We Do: Tanzania,” Department for International Development (DFID), accessed April 2, 2013, <http://projects.dfid.gov.uk/Default.aspx?countrySelect=TZ-Tanzania>; “Tanzania: Education,” USAID, accessed April 2, 2013, <http://www.usaid.gov/tanzania/education>; The World Bank, “Country Assistance Strategy for the United Republic of Tanzania for the Period FY 2012-2015,” May 9, 2011, <http://documents.worldbank.org/curated/en/2011/05/14196937/tanzania-country-assistance-strategy-cas-period-fy2012-2015> (accessed April 2, 2013); “Tanzania, What UNICEF is Doing,” UNICEF, accessed April 2, 2013, [http://www.unicef.org/tanzania/6908\\_10807.html](http://www.unicef.org/tanzania/6908_10807.html).

<sup>281</sup> Global Mercury Project, “Final Country Report for Tanzania,” November 2007, <http://www.globalmercuryproject.org/countries/tanzania/docs/Tanzania%20Final%20Report.pdf> (accessed April 3, 2013), p. 5.

<sup>282</sup> *Ibid.*, p. 7.

<sup>283</sup> *Ibid.*, p. 18.

<sup>284</sup> Jesper Bosse Jønsson, Elias Charles, Per Kalvig, “Toxic Mercury versus Appropriate Technology: Artisanal Gold Miners’ Retort Aversion,” *Resources Policy*, (2012), <http://dx.doi.org/10.1016/j.resourpol.2012.09.001> (accessed February 21, 2013), pp. 5-6.

## V. The Responsibility of Gold Traders and the Gold Industry

While governments have the primary obligation to promote and ensure respect for human rights, international law and other norms recognize that businesses also have human rights responsibilities, as recognized in the UN Guiding Principles on Business and Human Rights.<sup>285</sup> Owners and managers of gold mining operations, national and international gold traders, as well as gold refiners and jewelers have a responsibility to ensure that they do not contribute to unlawful child labor or other human rights abuses.

In Tanzania, the responsibility of the extractives industry came into focus when it emerged that armed groups in the Democratic Republic of Congo (DRC)—responsible for mass human rights abuses—benefited from the trade in artisanal gold.<sup>286</sup> The United Nations and other sources have found that Tanzania has been a transit route for the smuggling of conflict gold from the DRC.<sup>287</sup> Companies that are listed in the US now have to disclose the origin of gold they buy from the DRC as well as Tanzania.<sup>288</sup>

### The Trade in Tanzanian Artisanal Gold

According to the Tanzanian government, small-scale miners produced about 1.6 tons of gold in 2012 (worth about US\$85 million).<sup>289</sup> Gold production may be significantly higher. One gold trader estimated that the artisanal mines in the Lake region alone produce

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<sup>285</sup> United Nations Human Rights Council, “Report of the Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises, John Ruggie: Guiding Principles on Business and Human Rights: Implementing the United Nations “Protect, Respect and Remedy” Framework,” A/HRC/17/31, March 21, 2011, <http://www.ohchr.org/documents/issues/business/A.HRC.17.31.pdf> (accessed February 28, 2013).

<sup>286</sup> Human Rights Watch, *The Curse of Gold-Democratic Republic of Congo* (New York: Human Rights Watch, 2005) <http://www.hrw.org/reports/2005/drc0505/drc0505.pdf>.

<sup>287</sup> Letter dated 29 November 2011 from the chair of the Security Council Committee established pursuant to resolution 1533 (2004) concerning the Democratic Republic of Congo UN Report addressed to the president of the Security Council, S/2011/738, December 2, 2011, [http://www.un.org/ga/search/view\\_doc.asp?symbol=S/2011/738](http://www.un.org/ga/search/view_doc.asp?symbol=S/2011/738) (accessed March 28, 2013); Enough, “From Child Miner to Jewelry Store. The Six Steps of Congo’s Conflict Gold,” October 2012, <http://www.enoughproject.org/files/Conflict-Gold.pdf> (accessed March 28, 2013).

<sup>288</sup> See the Legal Framework Section for details.

<sup>289</sup> Human Rights Watch telephone interview with Shubi Byabato, assistant commissioner for mineral economics and trade, Ministry of Energy and Minerals, May 15, 2013. In 2010 and 2011, artisanal gold production was officially at about 2.2 tons and 1.1 tons respectively. Tanzania Ministry of Energy and Minerals, “Small-scale gold statistics for Human Rights Watch,” October 2012 (on file with Human Rights Watch); Ministry of Energy and Minerals, Tanzania Minerals Audit Agency. “Annual Report,” p. 14. The cost of gold was based on an average price of \$1669.03 per ounce. “2012 Gold Price History,” USAGold, accessed May 15, 2013, <http://www.usagold.com/reference/prices/2012.html>.

around 200 kilograms of gold per week (amounting to about 10 tons of gold per year).<sup>290</sup> There are no official figures on the export of artisanal gold. Some sources indicate that there is significant illegal trading, including smuggling.<sup>291</sup>

The trade in Tanzania is organized by a network of local traders. Under Tanzanian law, there are two types of licensed gold traders: brokers and dealers. Brokers are only allowed to trade inside Tanzania, while dealers possess a license to export gold and other minerals.<sup>292</sup> The government estimates there were 128 registered dealers in Tanzania during 2011 to 2012.<sup>293</sup> Brokers and dealers can only legally buy from miners who have a mining license. Trade among persons who are not mineral right holders, licensed brokers, or licensed dealers is qualified as “unauthorized trading of minerals.”<sup>294</sup>

In practice, many brokers also buy from unlicensed mines or work without a license themselves; the government does not penalize them for this.<sup>295</sup> Small brokers buy gold directly at the mines or from miners in mining towns. Dealers often rely on a network of small brokers to whom they advance money to buy gold, and who send them the purchased gold on a regular basis.<sup>296</sup> A few dealers in Dar es Salaam, many of them jewelers of Indian descent, dominate the export of artisanal gold, including illegal export (smuggling).<sup>297</sup> A source told Human Rights Watch that some of this gold is picked up twice a week from Indira Gandhi Street in Dar es Salaam and taken to the airport for export, but we could not independently verify this.<sup>298</sup> Other dealers are based in Mwanza and Shinyanga, near the gold mining area of the Lake region.<sup>299</sup>

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<sup>290</sup> Human Rights Watch interview with gold trader, Dar es Salaam, October 9, 2012. One local gold trader in Geita told Human Rights Watch that he received between 50 grams and 2 kilograms a day, and 200 grams of gold the day Human Rights Watch visited. If this was the average, the trade volume of this one local trader would be about 70 kilograms of gold per year. Human Rights Watch interview with gold trader, Geita, October 12, 2012.

<sup>291</sup> Human Rights Watch interview with mining official, Mwanza, October 15, 2012; Human Rights Watch interview with gold trader, Dar es Salaam, October 9, 2012; Human Rights Watch telephone interview with expert on gold trade, January 23, 2013.

<sup>292</sup> The Mining Act, 2010, arts. 73-86.

<sup>293</sup> Ministry of Energy and Minerals, “Small-Scale Gold Statistics for Human Rights Watch,” October 2012 (on file with Human Rights Watch).

<sup>294</sup> The Mining Act, 2010, art. 18.

<sup>295</sup> Jønsson and Ford, Handling Uncertainty

<sup>296</sup> Ibid.; Human Rights Watch interview with gold trader, Geita, October 12, 2012; Human Rights Watch interview with gold trader, Chunya, December 13, 2012.

<sup>297</sup> Human Rights Watch interview with gold trader, Dar es Salaam, October 9, 2012; Human Rights Watch interviews with gold traders, Chunya town, Chunya district, December 11 and 13, 2012; Jønsson and Ford, Handling Uncertainty.

<sup>298</sup> Human Rights Watch telephone interview with expert on gold trade, January 23, 2013.

<sup>299</sup> Ministry of Energy and Minerals, “Small-scale gold statistics for Human Rights Watch,” October 2012 (on file with Human Rights Watch).

According to a representative of the Ministry of Energy and Minerals, artisanal gold from Tanzania is exported to the United Arab Emirates (UAE), Switzerland, South Africa, China, and the United Kingdom.<sup>300</sup> Dubai in the United Arab Emirates (UAE) is the main buyer, according to several sources.<sup>301</sup>

## Child Labor in Tanzania’s Supply Chain for Artisanal Gold

Tanzanian law does not explicitly require due diligence measures to identify if there is unlawful child labor used in the supply chain, though traders have to buy gold from licensed mines where such child labor is prohibited. Unless laws and policies are enforced, this requirement is an insufficient tool to prevent child labor in the supply chain, as child labor also occurs in licensed mining sites.<sup>302</sup>

None of the 13 traders interviewed by Human Rights Watch said that they attempted to avoid child labor in their supply chain. In fact, some traders benefit directly from child labor by buying gold from the children who mined it.

Thirteen-year-old Michael H. described how he regularly sells to one of the many local traders: “After I burn, I take the gold when it cools. I take it to the buyer... I know his name. They are many.”<sup>303</sup> Fifteen-year-old Fumo D. who works in artisanal gold mining told Human Rights Watch that he sells the gold he has mined to a trader and gets mercury in return.<sup>304</sup> Other children also explained that they are selling their gold directly to brokers.<sup>305</sup>

Some traders confirmed that children regularly sell them gold, though they did not specify whether the children worked themselves in the mine or were selling gold mined by their

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<sup>300</sup> Human Rights Watch interview with Alex Magayane, assistant commissioner for minerals eastern zone, Ministry of Energy and Minerals, Dar es Salaam, October 9, 2012.

<sup>301</sup> Human Rights Watch interviews with gold traders, Chunya town, Chunya district, December 11 and 13, 2012; Human Rights Watch interview with mining official, Mwanza, October 15, 2012; Human Rights Watch telephone interview with expert on gold trade, January 23, 2013.

<sup>302</sup> See ‘Child Labor Inspections in Small-Scale Mining: Few and Far Between’ Section

<sup>303</sup> Human Rights Watch interview with Michael H., age 13, Matundasi Ward, Chunya district, December 10, 2012.

<sup>304</sup> Human Rights Watch interview with Fumo D., age 15, Nyarugusu Ward, Geita district, October 14, 2012.

<sup>305</sup> Human Rights Watch interview with Joana S., age 15, Chokaa Ward, Chunya district, December 12, 2012; Human Rights Watch interview with Lumumba J., age 15, Matundasi Ward, Chunya district, December 10, 2012.

parents or other adults.<sup>306</sup> One trader in Chunya explained, “Young children come to sell gold. Most are at school. Some might be sent by their parents and bring gold.”<sup>307</sup>

Brokers told Human Rights Watch that they were buying from whoever was selling to them. One trader in Chunya said, “I buy from anyone and I sell to anyone. I sell... to individuals in Dar es Salaam and they sell to Dubai.”<sup>308</sup> Another trader said, “Anyone can come.... We buy all kinds of gold.... We sell to special jewelers ..... The jewelers in Dar [es Salaam] sell abroad to Dubai.”<sup>309</sup> Other traders confirmed this laissez-faire approach.

A recent initiative under the Fairtrade and Fairmined Standard for Gold from Artisanal and Small-Scale Mining seeks to introduce child labor due diligence into the artisanal gold mining sector in Tanzania. Under this fair trade label, producers have to be formalized in cooperatives or other structures, exclude the use of child labor, and abandon risky practices such as amalgam burning in homes.<sup>310</sup> The Alliance for Responsible Mining (ARM) and Fairtrade are currently developing a program to certify artisanal gold from selected mining sites in Tanzania under the label.<sup>311</sup>

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<sup>306</sup> Human Rights Watch interviews with gold traders, Chunya town, Chunya district, December 11 and 13, 2012.

<sup>307</sup> Human Rights Watch interview with gold trader, Chunya town, Chunya district, December 13, 2012.

<sup>308</sup> Human Rights Watch interview with gold trader, Chunya town, Chunya district, December 11, 2012.

<sup>309</sup> Human Rights Watch interview with gold trader, Chunya town, Chunya district, December 13, 2012. A trader in Geita also stated that he bought gold from licensed and unlicensed mines. Human Rights Watch interview with gold trader, Geita town, Geita district, October 12, 2012, and a gold trader, Nyarugusu Ward, Geita district, October 19, 2012.

<sup>310</sup> Alliance for Responsible Mining/ Fairtrade Labelling Organizations International, “Fairtrade and Fairmined Standard for Gold from Artisanal and Small-Scale Mining, Including Associated Precious Metals,” March 15, 2010, [http://www.communitymining.org/attachments/034\\_Gold%20Standard%20Mar%202010%20EN.pdf](http://www.communitymining.org/attachments/034_Gold%20Standard%20Mar%202010%20EN.pdf) (accessed March 28, 2013), sec. 4.4.

<sup>311</sup> Human Rights Watch interview with project consultant, Dar es Salaam, October 9, 2012.

## VI. The Legal Framework

### Tanzania's National and International Human Rights Obligations

The Tanzanian government is a party to a number of international and regional treaties aimed at preventing and protecting children from human rights abuses, including the worst forms of child labor.<sup>312</sup> It also has a well-developed national legal framework on child rights.

#### *Child Labor*

Child labor is defined by the International Labour Organization (ILO) as work that is “mentally, physically, socially, or morally dangerous and harmful to children” and “interferes with their schooling.”<sup>313</sup> The Minimum Age Convention and the Worst Forms of Child Labor Convention describe what types of work amount to child labor, depending on the child's age, the type and hours of work performed, the impact on education, and other factors.

#### **The Worst Forms of Child Labor**

ILO Convention 182 concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour prohibits the worst forms of child labor for all children under age 18. The convention defines the worst forms of child labor as “all forms of slavery or practices similar to slavery, such as forced or compulsory labor,” as well as “work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children.”<sup>314</sup> The latter type of work is also defined as hazardous work

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<sup>312</sup> Tanzania has ratified the following international conventions: Convention on the Rights of the Child (CRC), adopted November 20, 1989, G.A. Res. 44/25, annex, 44 U.N. GAOR Supp. (No. 49) at 167, U.N. Doc. A/44/49 (1989), entered into force September 2, 1990, ratified by Tanzania on June 10, 1991; International Covenant on Economic, Social and Cultural Rights (ICESCR), adopted December 16, 1966, G.A. Res. 2200A (XXI), 21 U.N. GAOR Supp. (No. 16) at 49, U.N. Doc. A/6316 (1966), 993 U.N.T.S. 3, entered into force January 3, 1976, ratified by Tanzania on June 11, 1976; Optional Protocol to the Convention on the Rights of the Child on the Sale of Children, Child Prostitution and Child Pornography, adopted May 25, 2000, G.A. Res. 54/263, Annex II, 54 U.N. GAOR Supp. (No. 49) at 6, U.N. Doc. A/54/49, vol. III (2000), entered into force January 18, 2002, ratified by Tanzania on April 24, 2003, ILO Convention No. 182 concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labor (Worst Forms of Child Labor Convention), adopted June 17, 1999, 38 I.L.M. 1207, entered into force November 19, 2000, ratified by Tanzania on September 12, 2001; ILO Convention No. 138 concerning the Minimum Age for Admission and Employment (Minimum Age Convention), adopted June 26, 1973, 1015 U.N.T.S. 297, entered into force June 19, 1976, ratified by Tanzania on December 16, 1998. At the regional level Tanzania has following charters: African [Banjul] Charter on Human's and Peoples' Rights (Banjul Charter), adopted June 27, 1981, OAU Doc. CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982), entered into force October 21, 1986, ratified by Tanzania on February 18, 1984; African Charter on the Rights and Welfare of the Child, OAU Doc. CAB/LEG/24.9/49 (1990), entered into force November 29, 1999, ratified by Tanzania on March 16, 2003.

<sup>313</sup> “About Child Labor,” ILO-IPEC, accessed February 28, 2013, <http://www.ilo.org/ipec/facts/lang--en/index.htm>. See also ILO, *Child Labor – A textbook for university students*, (Geneva: ILO, 2004), p. 16.

<sup>314</sup> Worst Forms of Child Labor Convention, art. 3.

and includes a number of mining activities such as work underground, work with dangerous machinery and tools, transport of heavy loads, work that exposes children to hazardous substances.<sup>315</sup>

Tanzania's Law of the Child Act, Employment and Labour Relations Act, and the Mining Regulations, prohibit children under the age of 18 from engaging in hazardous work, including mining.<sup>316</sup>

### **Minimum Age**

For work other than the worst forms of child labor, international law requires states to set a minimum age for admission into employment and work. The Minimum Age Convention states that “the minimum age shall not be less than the age of compulsory schooling and, in any case, shall not be less than 15 years.”<sup>317</sup> As an exception, developing countries are allowed to specify a lower minimum age at 14 years at the moment of ratification.<sup>318</sup> The Minimum Age Convention also permits light work from the age of 13.<sup>319</sup> Under Tanzanian labor law, children below the age of 14 are not allowed to work.<sup>320</sup>

### *Education*

Both the Convention on the Rights of the Child (CRC) and the International Covenant on Economic Social and Cultural Rights (ICESCR), to which Tanzania is a party, require primary education to be compulsory and free without discrimination.<sup>321</sup> Secondary education, including vocational training, must be made available and accessible.<sup>322</sup> States are required to protect children from work that interferes with their education.<sup>323</sup>

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<sup>315</sup> ILO, R 190, Worst Forms of Child Labor Recommendation, 1999, <http://www.ilo.org/ilolex/cgi-lex/convde.pl?R190> (accessed February 28, 2013), para. 3.

<sup>316</sup> Law of the Child Act, art. 82; Employment and Labour Relations Act, art.5 (3); The Mining (Environmental Protection for Small Scale Mining) Regulations, art. 15.

<sup>317</sup> Minimum Age Convention, art. 2(3).

<sup>318</sup> *Ibid.*, art. 2(4).

<sup>319</sup> *Ibid.*, art. 7. Light work is defined as work “which is not likely to be harmful to their health and development; and not such as to prejudice their attendance at school, their participation in vocational orientation or training programs [...] or their capacity to benefit from the instruction received.”

<sup>320</sup> Employment and Labour Relations Act, art. 5(1).

<sup>321</sup> CRC, art. 28(1)a; ICESCR, art. 13(2)a. The Worst Forms of Child Labor Convention, art. 7, also stipulates that States shall take measures to “ensure access to free basic education.”

<sup>322</sup> CRC, art. 28; ICESCR, art. 13.

<sup>323</sup> CRC, art. 32.

While the rights under the ICESCR are subject to progressive realization, states also have core obligations that have to be fulfilled immediately.<sup>324</sup> In particular, States have to “provide primary education for all, on a non-discriminatory basis” and ensure that primary education is free of charge and compulsory.<sup>325</sup>

The CRC urges states to implement measures, where necessary, within the framework of international cooperation.<sup>326</sup> Similarly, the African Charter on the Rights and the Welfare of the Child provides that “every child has the right to an education” and stipulates that free and compulsory basic education should be achieved progressively.<sup>327</sup>

Under Tanzanian law, primary education is free and compulsory. The National Education Act requires parents and guardians to enroll every seven-year-old child in primary education.<sup>328</sup>

### *Protection against Violence and Sexual Abuse*

The CRC and other international treaties to which Tanzania is a party protect children from violence and abuse. Although parents or legal guardians have the primary responsibility for children in their care, states have an immediate obligation to protect children from all forms of physical or mental violence, injury and abuse, neglect or negligent treatment, maltreatment, or exploitation, including sexual abuse.<sup>329</sup>

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<sup>324</sup> UN Committee on Economic, Social and Cultural Rights (CESCR), General Comment No. 3, art. 2, para. 1, The Nature of States Parties Obligations, UN Doc. E/1991/23, annex III at 86 (1990), para. 10.

<sup>325</sup> CESCR, General Comment No.13, art. 13, The Right to Education, UN Doc. E/C.12/1999/10 (1999), para. 57.

<sup>326</sup> CRC, art. 4.

<sup>327</sup> African Charter on the Rights and Welfare of the Child, art. 11. The Protocol to the African Charter on Human and People’s Rights on the Rights of Women in Africa urges states to “promote the enrollment and retention of girls in schools and other training institutions” (art 12, 2(c)), <http://www.africa-union.org/root/au/Documents/Treaties/Text/Protocol%20on%20the%20Rights%20of%20Women.pdf> (accessed February 28, 2012).

<sup>328</sup> The National Education Act, No. 25 of 1978, <http://polis.parliament.go.tz/PAMS/docs/25-1978.pdf> (accessed April 16, 2013), art. 35. (1); Ministry of Education and Culture, “Education Sector Development Programme, Primary Education Development Plan (2002-2006),” July 2011, [http://www.ed-dpg.or.tz/pdf/PE/Primary%20Education%20Development%20Plan-PEDP%20l\\_2000-06.pdf](http://www.ed-dpg.or.tz/pdf/PE/Primary%20Education%20Development%20Plan-PEDP%20l_2000-06.pdf) (accessed April 16, 2013), p. 5 (which highlights that under the 2002 – 2006 Primary Education Development Plan, the government eliminated primary school fees and contributions).

<sup>329</sup> CRC, art. 19(1).

Sexual exploitation and abuse of children is prohibited in all forms by the CRC.<sup>330</sup> Child prostitution is prohibited under the Optional Protocol to the CRC on the sale of children, child prostitution and child pornography, and identified as a worst form of child labor under ILO Convention 182.<sup>331</sup>

Tanzania's Law of the Child Act stipulates that "[a] child shall not be engaged in any work or trade that exposes the child to activities of sexual nature, whether paid for or not."<sup>332</sup>

### *Health*

The right to the highest attainable standard of health is enshrined in international human rights law. The ICESCR, the CRC, the African Charter on Human and Peoples' Rights, and the African Charter on the Rights and the Welfare of the Child recognize the right to physical and mental health as well as the right of access to health care services for the sick.<sup>333</sup> Several international and regional legal instruments also require states to protect children from work that is harmful to their health or physical development.<sup>334</sup>

The full realization of the right to the highest attainable standard of health has to be achieved progressively, meaning that states have "an obligation to move as expeditiously and effectively as possible towards that goal."<sup>335</sup> In addition, states face core obligations that have to be met immediately, including essential primary health care, access to health services on a non-discriminatory basis, and access to an adequate supply of safe and potable water.<sup>336</sup> Obligations of comparable priority include the provision of reproductive, maternal, and child health care, and of education and access to information concerning the main health problems in the community.<sup>337</sup>

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<sup>330</sup> CRC, art. 34; African Charter on the Rights and Wellbeing of the Child, art. 16(1), art. 27.

<sup>331</sup> Optional Protocol to the CRC on the Sale of Children, Child Prostitution and Child Pornography, arts 1, 2(b). 3(1)(b); Worst Forms of Child Labor Convention, art. 3(b).

<sup>332</sup> Law of the Child Act, art. 83.(1).

<sup>333</sup> ICESCR, art. 12; Banjul Charter, art. 16; CRC, art. 24; African Charter on the Rights and the Wellbeing of the Child, art. 14.

<sup>334</sup> CRC, art. 32(1); Worst Forms of Child Labor Convention, art. 3(d); African Charter on the Rights and the Wellbeing of the Child, art. 15(1).

<sup>335</sup> CESCR, General Comment No.3, The Nature of States Parties Obligations, U.N. Doc. E/1991/23 (1991), para. 9.

<sup>336</sup> CESCR, General Comment No. 14, para. 43.

<sup>337</sup> *Ibid.*, para. 44.

## Occupational Health

The ICESCR requires that states, in order to realize the right to the highest attainable standard of health, shall take the steps necessary for the prevention, treatment and control of occupational and other diseases.<sup>338</sup> It also recognizes “the right of everyone to the enjoyment of just and favorable conditions of work” including “safe and healthy working conditions.”<sup>339</sup>

The Committee on Economic Social and Cultural Rights (CESCR) has noted that the right to health includes an obligation on states to minimize “so far as is reasonably practicable ... the causes of health hazards inherent in the working environment.”<sup>340</sup>

Under the Occupational Health Safety Act, Tanzania has adopted laws to promote a safe working environment and to minimize health hazards.<sup>341</sup>

## Environmental Health

Some international treaties explicitly recognize environmental threats to the right to health.<sup>342</sup> State parties to the ICESCR are obligated to improve “all aspects of environmental and industrial hygiene,” for example through the prevention and reduction of the population’s exposure to harmful substances such as harmful chemicals.<sup>343</sup> The CRC also recognizes that for children to enjoy the highest attainable standard of health, states should consider the “dangers and risks of environmental pollution” when combating disease and malnutrition.<sup>344</sup>

In addition, African regional treaties to which Tanzania is a party have recognized the right to a healthy environment. Under the African Charter on Human and Peoples’ Rights, “all peoples shall have the right to a general satisfactory environment favorable to their

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<sup>338</sup> ICESCR, art. 12.

<sup>339</sup> *Ibid.*, art. 7.

<sup>340</sup> CESCR, General Comment No. 14, para. 15.

<sup>341</sup> The Occupational Health and Safety Act, No. 4 of 2003, [http://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---ilo\\_aids/documents/legaldocument/wcms\\_151291.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_151291.pdf) (accessed March 19, 2013).

<sup>342</sup> Human Rights Council, Report of the Independent Expert on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, John H. Knox, Preliminary Report, A/HRC/22/43, December 24, 2012, [http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session22/A-HRC-22-43\\_en.pdf](http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session22/A-HRC-22-43_en.pdf) (accessed February 28, 2012), para. 23.

<sup>343</sup> CESCR, General Comment No. 14, para. 15.

<sup>344</sup> CRC, art. 24(1), 24(2)(c).

development.”<sup>345</sup> The Additional Protocol on the Rights of Women states that women “shall have the right to live in a healthy and sustainable environment” and “the right to fully enjoy their right to sustainable development.”<sup>346</sup>

## International Human Rights Obligations of Businesses

Although governments have the primary responsibility for promoting and ensuring respect for human rights, private entities such as companies have human rights responsibilities as well. This basic principle has achieved wide international recognition and is reflected in international norms, most recently with the adoption of the Guiding Principles on Business and Human Rights by the UN Human Rights Council in June 2011.<sup>347</sup>

The principles place particular emphasis on the concept of human rights due diligence—the idea that companies must have a process to identify, prevent, mitigate, and account for their impact on human rights. According to the Guiding Principles, corporations should monitor their impact on an ongoing basis and have processes in place that enable the remediation of the adverse human rights impacts they cause or to which they contribute.<sup>348</sup> With regard to the issues presented in this report, effective due diligence means that firms buying gold produced in Tanzania should be aware of the risk that child labor could be present in their supply chain—and take effective steps to ensure that they do not purchase gold mined or processed through the exploitation of child labor. They should also have effective frameworks in place to carry out ongoing monitoring of their supply chains and to address any violations that occur in spite of these safeguards.

Also of relevance to Tanzania and to companies who purchase Tanzanian gold are robust international safeguards that have been put in place to check the illicit trade in “conflict minerals,” including gold, from the Democratic Republic of Congo.<sup>349</sup> In the United States, a

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<sup>345</sup> African [Banjul] Charter on Human’s and Peoples’ Rights (Banjul Charter), art 24.

<sup>346</sup> The Protocol to the African Charter on Human and People’s Rights on the Rights of Women in Africa, arts. 18-19.

<sup>347</sup> United Nations Human Rights Council, “Report of the Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises, John Ruggie: Guiding Principles on Business and Human Rights: Implementing the United Nations “Protect, Respect and Remedy” Framework,” A/HRC/17/31, March 21, 2011, <http://www.ohchr.org/documents/issues/business/A.HRC.17.31.pdf> (accessed February 28, 2013), principle 12. There is, however, as yet no shared understanding of the full scope of businesses’ human rights responsibilities, whether these are or should be binding under international law, and if so, how they can best be enforced.

<sup>348</sup> *ibid.*, principles 15-24.

<sup>349</sup> Human Rights Watch, *The Curse of Gold-Democratic Republic of Congo* (New York: Human Rights Watch, 2005) <http://www.hrw.org/reports/2005/drc0505/drc0505.pdf>.

provision inserted into a broad financial regulatory reform bill, known as the Dodd-Frank Act, requires all US-listed companies to carry out due diligence activity to ensure that their supply chains are free of conflict minerals originating from the DRC or neighboring countries, including Tanzania.<sup>350</sup> A 2011 report by the United Nations and other sources found that Tanzania has been a transit route for the smuggling of conflict gold from the DRC.<sup>351</sup>

Following the adoption of the Dodd Frank Act, several voluntary standards have been developed for the precious metals industry. In 2012, the Organization for Economic Cooperation and Development (OECD) adopted a due diligence guidance for the gold supply chain from conflict-affected and high-risk areas—though it remains unclear what “high-risk” areas are.<sup>352</sup> For these regions, the OECD guidance explicitly seeks to avoid contributing to the worst forms of child labor. Several industry associations, including the London Bullion Market Association and the Dubai Multi Commodities Centre have also created gold-specific voluntary standards on responsible sourcing.<sup>353</sup> While these standards are largely focused on due diligence for gold from conflict areas, they do include references to human rights and forced child labor. The Responsible Jewellery Council, a not-for-profit standards setting and certification organization with more than 440 member companies, has developed a voluntary standard that addresses child labor outside conflict areas explicitly and in more detail.<sup>354</sup>

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<sup>350</sup> The law also requires companies to disclose their payments to resource-rich governments. “Act to Promote the Financial Stability of the United States”, <http://www.sec.gov/about/laws/wallstreetreform-cpa.pdf> (accessed May 9, 2013); Security and Exchange Commission, “17 CFR parts 240 and 249b,” August 22, 2012, <http://www.sec.gov/rules/final/2012/34-67716.pdf> (accessed March 25, 2013).

<sup>351</sup> Letter dated 29 November 2011 from the chair of the Security Council Committee established pursuant to resolution 1533 (2004) concerning the Democratic Republic of Congo UN Report addressed to the president of the Security Council, 2011/738, December 2, 2011, [http://www.un.org/ga/search/view\\_doc.asp?symbol=S/2011/738](http://www.un.org/ga/search/view_doc.asp?symbol=S/2011/738) (accessed March 28, 2013); Enough, “From Child Miner to Jewelry Store. The Six Steps of Congo’s Conflict Gold,” October 2012, <http://www.enoughproject.org/files/Conflict-Gold.pdf> (accessed March 28, 2013).

<sup>352</sup> OECD, “OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. Supplement on Gold,” 2012, <http://www.oecd.org/daf/inv/mne/GoldSupplement.pdf> (accessed April 18, 2013).

<sup>353</sup> The World Gold Council, “Conflict Free Gold Standard”, 2012, [http://www.gold.org/download/cfgs/Conflict\\_Free\\_Gold\\_Standard\\_English.pdf](http://www.gold.org/download/cfgs/Conflict_Free_Gold_Standard_English.pdf) (accessed April 18, 2013), The London Bullion Market Association, “LBMA Responsible Gold Guidance,” 2013 <http://www.lbma.org.uk/assets/RGG20130118.pdf> (accessed April 18, 2013), The Dubai Multi Commodities Centre, “Practical Guidance for market participants in the Gold and Precious Metals Industry,” 2012 <http://www.dmcc.ae/jltauthority/gold/files/2013/01/DMCC-Practical-Guidance-for-Responsible-Supply-Chain.pdf> (accessed April 18, 2013).

<sup>354</sup> Responsible Jewellery Council, “Principles and Codes of Practice,” 2009, [http://www.responsiblejewellery.com/files/RJC\\_Prin\\_COP091.pdf](http://www.responsiblejewellery.com/files/RJC_Prin_COP091.pdf) (accessed April 18, 2013). The code is currently being revised.

The Committee on the Rights of the Child has further defined state responsibility with regards to businesses and child rights. In particular, States should require businesses to undertake child rights due diligence. The committee has also highlighted the child rights obligations of governments in the context of businesses' extra-territorial activities and the responsibility of small businesses and of actors in the informal economy, where many child rights violations occur.<sup>355</sup>

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<sup>355</sup> UN Committee on the Rights of the Child, General Comment No.16, State Obligations Regarding the impact of the Business Sector on Children's Rights, CRC/C/GC/16 (2013).

## VII. Recommendations

### To the Tanzanian Government

#### *The Ministry of Labour and Employment*

- Ensure labor officers identify child labor in mining through regular and systematic visits to licensed and unlicensed small-scale mines and rigorous interviews with employees to determine their ages. They should take steps to withdraw, rehabilitate, and integrate children involved in mining and other worst forms of child labor. Labor officers should issue compliance orders to employers who use child labor and initiate legal action where necessary. Government measures must respect human rights and should not lead to retribution or punishments that exceed the penalties outlined in the mining regulations, the Law of the Child Act, and the Employment and Labour Relations Act.
- Ensure labor officers, in coordination with social welfare officers and other relevant ministries, withdraw and rehabilitate children who have been commercially sexually exploited in mining areas, and take steps to ensure the prosecution of perpetrators.
- As part of annual reports, measure and publish the number of children withdrawn from mining and other worst forms of child labor, as well as the number of compliance orders issued to employers for using child labor.
- Work collaboratively with the Ministry of Energy and Minerals so that mining officials inform labor officers of large informal sites with child labor. Labor officers should also accompany mining officials to large gold rush sites to inspect for child labor.
- Increase the number of labor officers and create incentives to minimize turnover. Train all inspectors on child labor issues, and ensure they have sufficient resources such as vehicles and fuel to visit the mines.
- Implement the National Action Plan for the Elimination of Child Labour and track its success.
- Conduct a new national survey on child labor in Tanzania.
- Train mining officials, social welfare officers, community development officers, and other relevant government officials on child labor. Clarify the responsibilities of all divisions and departments who have an obligation to act on child labor.
- Conduct awareness-raising and outreach on the hazards of child labor in mining, in conjunction with other relevant ministries such as the Ministry of Energy and

Minerals, the Ministry of Education, the Ministry of Gender, Development and Children, and the Ministry of Health and Social Welfare. Outreach should target small-scale miners in licensed and unlicensed mines, artisanal mining associations, and parents in artisanal mining communities.

### *The Ministry of Energy and Minerals*

#### **Child Labor in Small-Scale Gold Mining**

- Explicitly address child labor and mercury exposure in current efforts to promote the development and professionalization of artisanal mining, including through the government-led ‘Strategy to Support Artisanal and Small-Scale Mining Development’.
- Train mining officials to fully enforce current laws prohibiting child labor in mining.
  - If child labor is found on licensed mines, require Primary Mining License (PML) holders to end the use of child labor. Conduct follow-up inspections and impose penalties such as fines, in accordance with mining regulations, if employers fail to remove child labor.
  - If child labor is found on unlicensed mines—which are not covered by mining regulations—remind employers of child labor laws and encourage them to comply. Inform the Ministry of Labour and Employment for further inspection and penalties.
  - Inform the Ministry of Labour and Employment about the location of unlicensed gold rush sites where large numbers of children may be working.
- Request managers on licensed mines to document the ages of all the employees working on the site.
- Strengthen efforts to formalize the artisanal and small-scale gold mining sector by, for example, investigating and removing potential obstacles to obtaining a PML, increasing the pace at which land becomes available to unlicensed miners, and disseminating information about land available for small-scale gold mining. However, as part of these efforts, the government should not engage in a mass clampdown of unlicensed mining activity.
- Join the National Intersectoral Coordination Committee on Child Labor to highlight issues and propose strategies to address child labor in mining.
- Allow mining officials to focus on inspecting mines for compliance with mining regulations and use other members of staff to collect revenues from the mines.

- Revise the mining regulations so that brokers and dealers are required to have child labor due diligence procedures in place.
- Urge gold traders and companies to eliminate child labor from their supply chain, to support child labor programs, and to stop buying gold from children.

### **Mercury Use in Small-Scale Gold Mining**

- Prioritize ending the most harmful practices of mercury use on licensed mines, including the use of mercury by children, burning the amalgam in residential areas, and burning the amalgam in the open. Conduct research to identify and address factors contributing to unsafe practices.
- Enforce current regulations that require the use of retorts and protective gear. Work to supply retorts to miners that are affordable, capable of being replaced, and sensitive to miners' preferences.
- Conduct research and facilitate discussions with small-scale miners on the use of mercury alternatives.
- Continue to introduce mercury-free gold extraction techniques.
- Replace individual environmental action plans with a clear checklist of basic environmental practices that all small-scale miners should follow.
- Raise awareness on the most harmful uses of mercury, in particular the use of mercury by children and pregnant women, among community members, health officials, and relevant ministries such as the Ministry of Labour and Employment.
- Draft a national action plan on the reduction of mercury in small-scale mining that prioritizes activities to reduce the risk to the most vulnerable populations, such as children and pregnant women living and working in artisanal mining areas. The plan should be developed in close consultation with Nongovernmental Organizations (NGOs) working on child labor in artisanal mining, environmental NGOs, experts and UN agencies.

### *The Ministry of Education*

- Instruct district officials to investigate and eliminate illegal primary school contributions to ensure that they do not thwart access to education in mining areas. Continue to invest in improving school infrastructure and facilities to minimize the need for schools to charge additional expenses.

- Increase support to orphans and other vulnerable children so they can enroll in primary and post-primary education.
- Invest in afterschool activities such as sports and games to help encourage attendance and discourage children from going to the mines after class.
- Increase access to post-primary education in mining areas by providing opportunities to students who fail the Primary School Leaving Examination to retake the test and compete for a place at a secondary school and by increasing the number of vocational training opportunities available to students after primary school.
- Continue to expand nurseries and other early learning and childcare institutions so young children do not have to accompany their parents to the mines.

#### *The Department of the Environment Vice President's Office*

- Amend the National Strategic Plan for Mercury Management, in consultation with small-scale miners, the Ministry of Health and Social Welfare, and civil society, in accordance with the Minamata Convention on Mercury. The plan should include a strong health response with provisions for periodic data-gathering on mercury levels (possibly in conjunction with other research where blood samples are collected), training for health workers on the health effects of mercury, and using health officials to carry out awareness-raising activities.
- Launch and implement the plan as soon as possible and focus on taking immediate steps to reduce exposure to mercury, particularly among children, and train health officials to recognize symptoms of extreme mercury poisoning.
- Lead efforts to ratify the Minamata Convention on Mercury.

#### *The Ministry of Health and Social Welfare*

- Develop a comprehensive health sector response to mercury exposure in mining areas with a particular focus on child health. This program should seek the input of occupational health and mercury experts. In particular:
  - Train medical personnel on mercury intoxication;
  - Increase the health system's capacity to carry out biomonitoring of mercury levels in urine in mining areas, and mercury in blood, hair, and breast milk in at least one reference laboratory;
  - Increase the health system's capacity to diagnose mercury poisoning and mercury-related health conditions;

- Increase the health system’s capacity to treat the effects of mercury exposure and poisoning;
  - Raise awareness of the health risks of mercury use in small-scale mining at child health and antenatal clinics;
  - Start a pilot program for testing and, to the extent possible, treatment of children’s mercury levels in a small-scale mining area with the goal of expanding it to all affected areas.
- Improve access to primary healthcare for children and reproductive health education and services on HIV/tuberculosis in small-scale mining areas through, for example, well equipped mobile clinics with skilled healthcare workers.
- Ensure that girls who are victims of sexual violence and commercial sexual exploitation have access to post rape healthcare, including post exposure prophylaxis (PEP) for HIV.
- Encourage social welfare officers and other parasocial workers to identify and protect girls who work in mining from sexual abuse.
- Implement the new National Costed Plan of Action for Most Vulnerable Children, which aims to strengthen the capacity of communities and local government actors to protect the most vulnerable children, including children involved in the worst forms of child labor, and ensure their access to health, education, and other child protection services.

*The Ministry of Community Development, Gender and Children*

- Take action to end commercial sexual exploitation and assist the victims, as part of efforts to develop and implement the National Plan of Action to Prevent and Respond to Violence against Children. In particular, activities should include legal assistance, appropriate health and counseling services, and access to education, vocational training, or other social reintegration measures for victims.

*The Government Chemist Laboratory Agency, Ministry of Health and Social Welfare*

- Take steps to prevent the illegal trade of mercury by investigating and acting on the sources of illegal mercury and by enforcing laws that require mercury traders to apply for a permit.
- Work with donors to conduct periodic surveillance on mercury exposure and intoxication in artisanal communities with a particular focus on child health. To

minimize the amount of resources used, these initiatives may be carried out as part of other research that collects blood and urine.

### *The Ministry of Finance*

- Allocate finances for the implementation of the National Action Plan for the Elimination of Child Labor, the National Strategic Plan on Mercury Management, the National Costed Action Plan on the Most Vulnerable Children, and the National Plan of Action to Prevent and Respond to Violence against Children.

### **To Local and Village Authorities**

- Adopt bylaws that provide village officials legal authority to act when they find child labor in mining.

### **To Artisanal Miners' Associations**

- Develop a code of conduct or policy for Tanzania's artisanal gold mining sector, obliging members to undertake measures towards the elimination of child labor in artisanal gold mining and to take action on mercury. Monitor the use of child labor and mercury on members' mines.

### **To Large-Scale Gold Mining Companies**

- Develop programs to address child labor and mercury use in small-scale mining, in consultation with local government, NGOs, and regional miners' associations, as part of community engagement strategies.
- Consider becoming involved in the Multi-Stakeholder Partnership with the government and World Bank. Fund pilot projects to remove children from small-scale gold mines and reduce mercury exposure through this initiative.

### **To the African Union**

- As part of the African Union Mining Vision Action Plan, ensure that all artisanal and small-scale mining policies, laws, regulations, standards and codes address child labor and mercury use in small-scale gold mining.
- The African Committee on the Rights and Welfare of a Child should investigate child labor in small-scale gold mining.

## To Donor Countries, the World Bank, and Relevant UN Agencies

- Provide financial, political, and technical support for the above-mentioned measures. In particular, support:
  - The National Action Plan for the Elimination of Child Labor, including to programs for the strengthening of district level child protection systems, and withdrawal of children working in artisanal mines;
  - The third Tanzania Social Action Fund (TASAF III), a social protection scheme that benefits vulnerable children and that ties cash transfers to regular school;
  - Measures to end the use of mercury by child laborers;
  - Measures to introduce technologies that reduce exposure to mercury in small-scale gold mining, such as retorts;
  - Initiatives to support the ratification of the Minamata Convention on Mercury.
- The International Labour Organization should make child labor in artisanal mining a priority issue.
- The World Bank should ensure that all projects in Tanzania that involve artisanal and small-scale mining, such as the Sustainable Management of Mineral Resources Project (SMMRP) and the Multi-Stakeholder Partnership, include initiatives that are designed to decrease child labor in mining, increase access to education for children from artisanal and small-scale mining families, and reduce the exposure of children and adults to mercury. The impact of these initiatives on child labor and mercury exposure should be explicitly measured through the results frameworks of all relevant projects.

## To Tanzanian and International Companies Trading in Tanzanian Artisanal Gold

- Establish a thorough due diligence process, including regular monitoring, to eliminate child labor in your supply chains. Monitors should be independent and the results of monitoring should be published. Companies should visit artisanal mines to ensure they have accurate information about child labor. If there are reports that child labor is being used, companies should specifically investigate these reports. The due diligence process should also include procedures to address adverse human rights impacts.

- Where necessary, Tanzania’s government and international companies should train suppliers on how to identify and address child labor.
- In the event that child labor occurs, companies buying the gold should take action to address the situation. In particular the companies should:
  - Immediately inform government authorities and urge them in writing to take measures to end the use of child labor in small-scale gold mining within a specified timeframe, for example, to seek measurable improvements within one year through labor inspections and improved access to education;
  - Immediately inform suppliers and urge them to take measures to end the use of child labor in their supply chain within a specified timeframe, such as two years, in order to facilitate children’s transition out of work.
- Encourage and support credible and effective measures to end child labor, for example, through projects that improve access to education and withdraw children from child labor.
- Develop and publish a code of conduct or policy on child labor if they have not done so yet. Implementation of such a code or policy should be independently monitored by a credible third party.
- Cooperate with associations of gold miners to develop a sector-wide code of conduct on child labor in Tanzania’s small-scale mines.

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# TOXIC TOIL

## Child Labor and Mercury Exposure in Tanzania's Small-Scale Gold Mines

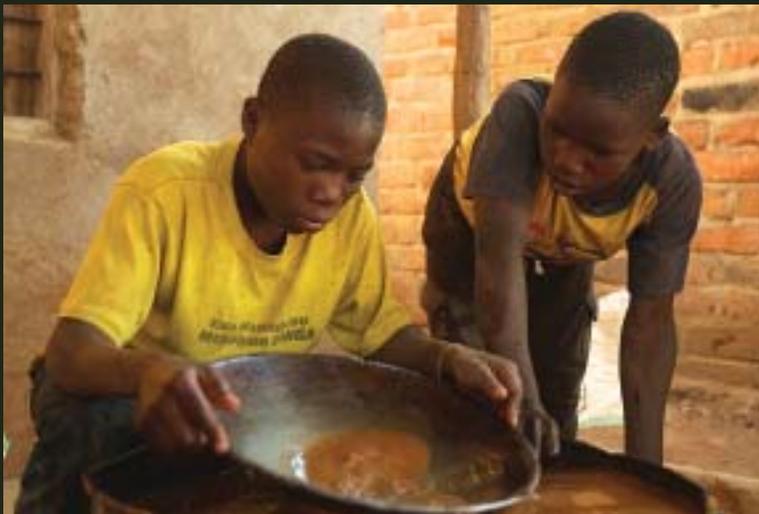
Thousands of children, some as young as eight-years-old, risk serious injury and even death from work in small-scale gold mining in Tanzania. Many children, especially orphans, lack basic necessities and seek employment in mining to support themselves and their relatives.

This report, based on over 200 interviews, examines child labor and exposure to mercury in small-scale gold mining in Tanzania, Africa's fourth-largest gold producer. Children dig and drill in deep, unstable pits for shifts of up to 24 hours, transport and crush heavy bags of gold ore, and process the gold with mercury. Exposure to mercury vapor can cause neurological and developmental problems and it is particularly harmful to children. In some cases work in mining also affects children's attendance and performance at school and places girls at risk of sexual harassment and exploitation.

While the Tanzanian government has taken some important steps to reduce child labor and mercury exposure in gold mining, it has failed to adequately enforce its child labor laws and address some of the socioeconomic problems contributing to child labor. The government has also failed to develop and implement a comprehensive strategy to address the harmful effects of mercury.

Despite some funding to assist small-scale miners and to reduce child labor in sectors such as agriculture and domestic work, few donor initiatives specifically address child labor or mercury use in small-scale gold mining. Moreover, Tanzanian traders and international companies have not done enough to eliminate unlawful child labor in their supply chains.

The Tanzanian government, with the support of the international community, should end child labor in small-scale gold mining, improve support for orphans and other vulnerable children, strengthen access to education, and reduce mercury use and exposure.



*A 15-year-old boy mixes mercury and ground gold ore at a processing site in Mbeya Region, Tanzania.*

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