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Child Labor and Mercury Exposure in Tanzanias Small-Scale Gold Mines

A 15-year-old boy mixes mercury and ground gold ore at a processing site in Mbeya Region, Tanzania. 2013 Justin Purefoy for Human Rights Watch



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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

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 to 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:

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.

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 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 populations 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 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 for 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 governments 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 no 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 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 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 unlawful child labor. Meanwhile, international standards for human rights due diligence have largely focused on due diligence for conflict 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.

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 Presidents 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.

Artisanal and small-scale gold mining refers to small groups engaged in low-cost, low-tech, labor-intensive excavation and processing of gold.^[1] 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.^[2]

In 2011, Tanzania was the fourth largest gold producer in Africa.^[3] Roughly 5 percent of Tanzania's gross domestic product and one-third of its exports come from mining.^[4] 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.^[5] 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.^[6] According to government figures, there are more than 800,000 small-scale gold miners,^[7] thousands of whom are children.^[8]

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

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.^[11]



[Click to expand Image](#)

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.^[12] 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.^[13] Once the PML is issued, the owner is legally responsible for activities on the site, including compliance with mining, environmental, and safety regulations.^[14]

However, the majority of small-scale mining takes place on unlicensed, unauthorized mines.^[15] Some unlicensed mines exist for many years and are usually controlled by the land owner or a prominent community member.^[16] Other gold rushes spring up quickly and exist for a few months, typically on land owned by another individual or mining company.^[17] 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.^[18]

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.^[19] 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).^[20] 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 database at the Zonal Mines Office about the location of other mining licenses.^[21] Small-scale miners may also lack knowledge of the legal requirements and institutional procedures to apply for a PML.^[22]

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.^[23]

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).^[24] 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.^[25] Typically the owner claims between 20 and 50 percent of the gold production.^[26] 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.^[27] They typically receive payment in the form of a fixed amount of cash or ore.^[28] Children are involved in both digging in the pits as well as processing activities.

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.^[29] 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.^[30] 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.^[31]

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

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 Tanzania's rural labor force and the greatest number of children.^[35] 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.^[36]

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.^[37] 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 tanzanian gem mines and in small-scale gold mining.^[38] Thousands of children are likely to be involved in this sector.^[39] 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.^[40]

Poverty drives many children to seek employment in mining.^[41] 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.^[42] Tanzania has an estimated 3 million orphans, of whom roughly 1.3 million have lost a parent due to AIDS.^[43] Many of these children lack financial and other support from their guardians or extended families.^[44] 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.^[45] 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.^[46]

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.

The first phase of small-scale gold mining involves manually digging pits ranging from a few meters to up to 70 meters deep.^[47] 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 its hard work. Its hard rock. Yesterday was the first day I did it. My hands are aching.^[48] 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.^[49]

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:

Prolonged exposure to dust from drilling operations and handling and crushing ore may cause lung diseases such as silicosis.^[51] Miners with silicosis are at a high risk of developing tuberculosis (TB).^[52] 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.^[53]

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.^[54] 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:

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:

Children who work in deep pits may be exposed to dangerous and sometimes deadly gases that may be released during the mining process.^[61] This includes gas from pumps, which the government prohibits underground, but which miners often use to remove water from the pits.^[62] 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.^[63]

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.^[64] A medical official working near the mines in Chunya told Human Rights Watch:

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.^[66]

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.^[67] 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 on a bicycle. I bring them to the crusher. I don't like the work.^[68] Lifting and carrying heavy ore can lead to skeletal deformation and accelerated joint deterioration.^[69]

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:

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.^[71]

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.^[72]

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.^[73]

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

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.^[75]

The most serious health hazard comes from exposure to mercury vapor.^[76] 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.^[77] 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.^[78]

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 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.^[79] The evaporated mercury can travel long distances, potentially impacting children near the burning site and many kilometers away.^[80]

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.^[81] 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.^[82] One adult interviewee told Human Rights Watch, People drink tea with lots of milk to protect themselves.^[83]

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.

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.^[84] 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.^[85] 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 have a day of rest. Yesterday I was in the mine from 1 p.m. to 6 a.m.^[86] 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.^[87]

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.^[88]

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 days 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.[\[89\]](#) Children often used the income they earned to help to support their families or relatives they lived with.

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 commercial sexual exploitation.[\[90\]](#) 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:

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:

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.[\[93\]](#) Others worked as barmaids in Chunya district in Mbeya region. The barmaids said they had no option but to engage in sex work because they did not receive regular pay.[\[94\]](#) Wanda S., age 14, explained, Some bosses dont give money for food [to eat]. If they dont provide money for food, [you have to do sex work]. I want to stop it. I am regretting doing it [sex work].[\[95\]](#)

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.[\[96\]](#) 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.[\[97\]](#) Girls who are victims of commercial sexual exploitation are particularly vulnerable to rape and other forms of sexual violence, as are adult sex workers.[\[98\]](#) In Itumbi village in Chunya district, one sex worker complained they did not have an official place to report abuse from their clients.[\[99\]](#)

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.[\[100\]](#) 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.[\[101\]](#) A study of female bar workers in Mbeya region found an even higher HIV prevalence rate of 68 percent.[\[102\]](#) 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 HIV and that she had never used a condom with any of the men she had sex with.[\[103\]](#) Some of the girls who used condoms with their clients still feared contracting sexually transmitted infections.[\[104\]](#)

In some cases, child labor in mining affects childrens 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.[\[105\]](#) 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.[\[106\]](#) 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.[\[107\]](#) 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.[\[108\]](#) Teachers in mining areas described incidents of students being absent for two days per week and sometimes even a month or two.[\[109\]](#)

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

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.[\[111\]](#) A teacher in a mining village stated that students that missed school lagged behind academically.[\[112\]](#) 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 childrens rates of concentration in class.[\[113\]](#)

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.... Childrens dropout [rate] is on the increase because of their involvement in mining.[\[114\]](#) 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.[\[115\]](#)

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.[\[116\]](#) Some children in Chunya district processed the gold and mercury multiple times a week.

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.

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.[\[117\]](#) 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.[\[118\]](#) 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.[\[119\]](#)

Human Rights Watch also visited a traders home in Chunya district where miners processed the gold they extracted, in an area outside of the house, about five times a day.[\[120\]](#) 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.[\[121\]](#)

Three children told Human Rights Watch that they used mercury at home.[\[122\]](#) 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.[\[123\]](#)

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.[\[124\]](#) Mining regulations require Primary Mining License holders to construct washing and settling ponds 50 meters away from a water source.[\[125\]](#) 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.[\[126\]](#) 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 village in Chunya district about 10 meters away from the Sinjilili River.[\[127\]](#) He had also visited a mine in Manyanya village in Chunya district located on the edge of the river.[\[128\]](#)

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.[\[129\]](#) 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.[\[130\]](#)

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 Rwangasa mining area exceeded international quality guidelines.[\[131\]](#)

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.^[132] Mercury exposure was even higher among miners who burned the mercury-gold amalgam demonstrating the seriousness of inhaling mercury vapor.

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.^[133] Any results below HBM I are considered safe levels of mercury exposure.^[134] 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.^[135] Mercury levels above HBM II are action levels associated with negative health effects where exposure reduction is critical.^[136] As seen below, mercury levels in some of the people in the Rwamgasa study who either lived in Rwamgasa or worked in mining, exceeded HBM I and HBM II.



[Click to expand Image](#)

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.^[137] Some of the data for the study was collected in Matundasi in Chunya district, an area visited by Human Rights Watch.



[Click to expand Image](#)

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.^[138] Chronic mercury exposure (occurring over a long period of time) may affect the central nervous system, gastrointestinal and reproductive tracts, kidneys, oral cavity, lungs, eyes, and skin.^[139] Symptoms of mercury intoxication in children include memory and coordination (ataxia) problems and tremors.^[140]

Mercury is particularly harmful to fetuses and infants. It can be transmitted in utero and through breast milk.^[141] It is highly toxic to the developing brains of infants.^[142]

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 childrens 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.

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

Tanzanias 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.^[143] 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.^[144]

In June 2009, the Tanzanian government launched a National Action Plan for the Elimination of Child Labor.^[145] 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.^[146] 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 Ministers 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.^[147] The committee meets twice a year and held its last meeting in December, 2012.^[148] 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.^[149]

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.^[150] During an 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.^[151] The officer should also report the matter to a social welfare officer and the police.^[152] It is an offense to employ or procure a child for employment in a mine and labor officers may initiate proceedings in the Residents or District Court and prosecute the violator in the name of the labour commissioner.^[153] Employers who are found guilty may receive a fine, imprisonment, or both.^[154]

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.^[155] 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.^[156] 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.^[157] 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.^[158]

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.^[159] It only conducts approximately 20 to 25 inspections annually in all sectors, not just mining.^[160] 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.^[161] 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.^[162] 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.^[163]

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.^[164] During the 2011-2012 period, only two compliance orders were issued in mining: one in Mwanza and the other in Shinyanga.^[165] There have also been very few, if any, recent prosecutions for child labor.^[166] According to labor officers, they primarily educate people who employ children about the labor laws and advise them to take remedial action.^[167]

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.^[168]

However, mining offices lack sufficient staff to carry out regular inspections of small-scale mines.^[169] One mining official described the shortage of workers as one of the biggest challenges faced by the ministry.^[170] 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.^[171] 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:

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.^[173] The government has acknowledged that lack of understanding of child labor laws is a common problem among many government departments.^[174]

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.^[175]

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 ministers office.^[176] 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.^[177]

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.^[178]

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.^[179] However, labor officers infrequently inspect informal businesses.^[180]

Mining officials sometimes visit unlicensed sites to address legal, security, and safety concerns, and to collect taxes but generally not to look for children.^[181] A mining official in Chunya district explained, Sometimes we do go there [to unlicensed mines] and find 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.^[182] Mining officials are sometimes wary of visiting unlicensed mines because they do not want to appear to provide the site official recognition and legitimacy.^[183]

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.^[184] 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.

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.^[185] 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.^[186] 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 from returning to the mines. Human Rights Watch interviewed inspectors who said they determined the age of a child by looking at the childs 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.^[187] Many childrens births are not registered so officials should conduct rigorous interviews with various people on the mine to determine childrens 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.[188]

Two child laborers told Human Rights Watch that they returned to the mines after a government official inspecting the mines sent them away.[189] In one case, a child identified the official as an inspector from the Ministry of Energy and Minerals.[190] 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 dont 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.[191]

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.[192] 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 supposed to have a committee to identify vulnerable children.[193] Local government is responsible for addressing community needs but because of the gap in resources, officials often look to local NGOs for assistance.[194] 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.[195] 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.[196] 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.[197]

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.[198] 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.[199] This plan is targeted at children living with severe deprivations 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.[200] 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 Childrens 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.[201] The program targets 275,000 households a small fraction of the Tanzanians who live below the poverty line.[202] During the current phase of TASAF III, the government will provide infrastructure such as schools to support the project.[203] Other aid agencies should commit resources to scale up the program and ensure greater support for orphans and other vulnerable children.

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.

Even though the National Education Act and the 2002-2006 Education Development Plan have secured childrens rights to a free and compulsory primary education, in practice children must pay a range of illegal contributions and other expenses.[204] 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.[205] 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.[206] 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.[207] Two of the primary schools also charged students for a security guard.[208]

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 carry out outreach with the parents who dont send their kids to school. We have tried, but the outcomes are negative. A large number say they dont have the money to send their children to school.[209] 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.[210]

Although most children of primary school age in Tanzania are enrolled in primary school, few children continue on to secondary or vocational school.[211] 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 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.[212] During 2011 to 2012, only 58.3 percent of students passed the PSLE.[213] 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.[214]

Roughly half of the students who pass the PLSE continue on to secondary school.[215] Many fail to enroll or drop out because of school expenses. Human Rights Watch visited one secondary school in a mining town that charged the equivalent of \$21.49 per year.[216] Kondo K., a 17-year-old boy who worked on a mine in Mwabomba after passing the Standard 7 exam, explained, I couldnt continue because my father had no money to pay for fees, uniform, books. Theres a fee for academics, paper, and my father couldnt pay. I was supposed to be at Masumba Secondary School.[217]

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.[218] Between 2006 and 2010, an average of 402,305 students per year could not join the first year of secondary school.[219] 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.[220] 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.[221] 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.[222]

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 poverty 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.

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

Tanzanias National Environmental Management Act and Mining Regulations both address the use of mercury in licensed small-scale gold mining.[223] 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.[224] Under the Mining Regulations, a Primary Mining License (PML) holder must:[225]

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.[227] 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.[228] Additionally, one local study found that miners did not use protective gear because it was not sold in mining areas.[229]

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).[230] 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:

Other departments with the capacity to monitor mercury use also described difficulties conducting inspections in mining areas due to lack of transportation.[232] Some officers from important divisions also had little knowledge of the dangers of mercury. An inspector from 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.[233]

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.[234]

The Mercury Plan outlines activities to reduce and manage mercury emissions from 2010 to 2014 at a cost of about \$3 million.[235] 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.^[236] The plan also seeks to minimize intentional mercury use and to improve the management of mercury waste.^[237]

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.^[238] 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.^[239] The treaty also promotes appropriate health care services and health professional capacity to address mercury exposure.^[240] The government should launch the plan as soon as possible, prioritize ending the most harmful practices, and provide political and financial support to implement the plan.

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.^[241] 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.^[242]

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.^[243] However, the GCLA, and possibly others, only conduct trainings when funding is available.^[244] 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 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.^[245] 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.^[246] 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.^[247] 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.^[248] 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.^[249] 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.^[250]

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.^[251] 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.^[252] A study conducted by a Tanzanian NGO found that most of the mercury used in small-scale mining is purchased illegally.^[253] The government has also acknowledged that illegal importation of mercury takes place.^[254] Some traders told Human Rights Watch that they sell mercury directly to children.^[255]

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.^[256] 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.^[257]

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.

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.

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.^[258] 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.^[259]

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.^[260] The Bank believes that child labor primarily occurs on unlicensed, informal mines, which operate outside of Tanzania's legal framework.^[261] Rather than support specific child labor projects, the World Bank aims to address this and other issues through encouraging, advocating, and supporting formalization of the process of licensing and regulating small-scale mines.^[262] The impact of this strategy is not clear because child labor is not measured in the SMMRP monitoring and evaluation instruments.^[263] 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.^[264] However, it did not identify or develop strategies to mitigate the health hazards associated with mercury exposure or poisoning.^[265]

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.^[266] 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.^[267] 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).^[268] As with child labor, the World Bank also views formalization as a way to improve mining safety and reduce mercury exposure.^[269] However, because some of the environmental programs only recently came underway,^[270] and because the World Bank does not directly measure how its initiatives are impacting mercury use and exposure,^[271] 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.^[272] The partnership held its first meeting in November 2012 and will launch two pilot projects later this year.^[273] 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.

Few international organizations working in Tanzania focus on child labor in gold mining. Past initiatives include the International Labour Organizations 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.^[274] 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.^[275] The current budget is far smaller.^[276] 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.^[277] The United States Department of Labor is currently focusing on funding NGOs to support child labor programs in agriculture and domestic service.^[278]

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.^[279] 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.^[280]

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.^[281] It targeted areas adjacent Lake Victoria such as areas in Geita district.^[282] According to UNIDO, by the end of the project, gold miners and buyers in the two areas were using 98 retorts.^[283] 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.^[284] 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.

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.^[285] 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.^[286] The United Nations and other sources have found that Tanzania has been a transit route for the smuggling of conflict gold from the DRC.^[287] Companies that are listed in the US now have to disclose the origin of gold they buy from the DRC as well as Tanzania.^[288]

According to the Tanzanian government, small-scale miners produced about 1.6 tons of gold in 2012 (worth about US\$85 million).^[289] Gold production may be significantly higher. One gold trader estimated that the artisanal mines in the Lake region alone produce around 200 kilograms of gold per week (amounting to about 10 tons of gold per year).^[290] There are no official figures on the export of artisanal gold. Some sources indicate that there is significant illegal trading, including smuggling.^[291]

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.^[292] The government estimates there were 128 registered dealers in Tanzania during 2011 to 2012.^[293] 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.^[294]

In practice, many brokers also buy from unlicensed mines or work without a license themselves; the government does not penalize them for this.^[295] 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.^[296] A few dealers in Dar es Salaam, many of them jewelers of Indian descent, dominate the export of artisanal gold, including illegal export (smuggling).^[297] 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.^[298] Other dealers are based in Mwanza and Shinyanga, near the gold mining area of the Lake region.^[299]

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.^[300] Dubai in the United Arab Emirates (UAE) is the main buyer, according to several sources.^[301]

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.^[302]

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.^[303] 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.^[304] Other children also explained that they are selling their gold directly to brokers.^[305]

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 parents or other adults.^[306] 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.^[307]

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.^[308] 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.^[309] 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.^[310] 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.^[311]

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.^[312] It also has a well-developed national legal framework on child rights.

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.^[313] 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.

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.^[314] The latter type of work is also defined as hazardous work 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.^[315]

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.^[316]

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.^[317] As an exception, developing countries are allowed to specify a lower minimum age at 14 years at the moment of ratification.^[318] The Minimum Age Convention also permits light work from the age of 13.^[319] Under Tanzanian labor law, children below the age of 14 are not allowed to work.^[320]

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.^[321] Secondary education, including vocational training, must be made available and accessible.^[322] States are required to protect children from work that interferes with their education.^[323]

While the rights under the ICESCR are subject to progressive realization, states also have core obligations that have to be fulfilled immediately.^[324] 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.^[325]

The CRC urges states to implement measures, where necessary, within the framework of international cooperation.^[326] 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.^[327]

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.^[328]

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.^[329]

Sexual exploitation and abuse of children is prohibited in all forms by the CRC.^[330] 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.^[331]

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.^[332]

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.^[333] Several international and regional legal instruments also require states to protect children from work that is harmful to their health or physical development.^[334]

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.^[335] 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.^[336] 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.^[337]

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.^[338] It also recognizes the right of everyone to the enjoyment of just and favorable conditions of work including safe and healthy working conditions.^[339]

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.^[340]

Under the Occupational Health Safety Act, Tanzania has adopted laws to promote a safe working environment and to minimize health hazards.^[341]

Some international treaties explicitly recognize environmental threats to the right to health.^[342] 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 populations exposure to harmful substances such as harmful chemicals.^[343] 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.^[344]

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 development.^[345] 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.^[346]

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.^[347]

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.^[348] 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.^[349] In the United States, a 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.^[350] 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.^[351]

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 although it remains unclear what high-risk areas are.^[352] 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.^[353] 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.^[354]

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.^[355]

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^[11]Ore is a naturally occurring material from which a metal or other valuable mineral can be extracted.

^[12]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, arts. 8(2), 55(2), 56. Specific types of companies and partnerships may also meet the criteria to apply for a PML.

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- [84] 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.
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- [88] See Harm to Education Section.
- [89] 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.
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- [193] Human Rights Watch interview with social welfare officer and a community development officer, Kahama town, Kahama district, October 19, 2012.
- [194] Ibid.
- [195] 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.tacaid.org/tz/dmdocuments/THMIS%202007-08.pdf> (accessed March 19, 2013), pp. 160-161.
- [196] Human Rights Watch interview 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.
- [197] Human Rights Watch interview with Joana S., age 15, Chokaa Ward, Chunya district, December 12, 2012.
- [198] See Social and Economic Policy, UNICEF, accessed March 23, 2013, http://www.unicef.org/socialpolicy/index_socialprotection.html.
- [199] 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.
- [200] Ibid., pp. 14-15.
- [201] 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/Project0Inform0ument0Concept0Stage.pdf (accessed April 2, 2013), para. 3(b); Human Rights Watch telephone interview with social protection specialist, World Bank, April 26, 2013.
- [202] Human Rights Watch telephone interview with social protection specialist, World Bank, April 26, 2013.
- [203] Ibid.
- [204] 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%20I_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.
- [205] 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.
- [206] 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.
- [207] 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.
- [208] 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.
- [209] Human Rights Watch interview with three school teachers, Nyarugusu Ward, Geita district, October 12, 2012.
- [210] Human Rights Watch interview with Haki E., age 14, Nyarugusu Ward, Geita district, October 14, 2012.
- [211] 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 (accessed February 18, 2013), pp. 14-15.
- [212] Human Rights Watch interview with education official, Dar es Salaam, October 22, 2012.
- [213] The United Republic of Tanzania, Education Sector Development Committee, *Education Sector Performance Report 2011/2012*, p. 29.
- [214] 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.
- [215] 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 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.
- [216] Human Rights Watch interview with teacher at a secondary school, Chokaa Ward, Chunya district, December 11, 2012.
- [217] Human Rights Watch interview with Kondo K., age 17, Mwabomba, Kahama district, October 17, 2012.
- [218] 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.
- [219] Ibid., p. 15.
- [220] ILO-IPEC, *Tanzania, Children Labour in Mining*, pp. ix-x.
- [221] Human Rights Watch interview with teacher, Mwabomba, Kahama district, October 18, 2012.
- [222] Human Rights Watch interview with miner, Kaseme Ward, Geita district, October 12, 2012.
- [223] Vice Presidents 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*.
- [224] 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).
- [225] 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.
- [226] Jansson, 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%20April08.pdf (accessed February 21, 2013).
- [227] Sørensen, *Informing the People*, p. 21.
- [228] Human Rights Watch interview with miner, Nyarugusu Ward, Geita district, October 11, 2012.

[229] Agenda, Study on Impact of Mercury Use, p. 32.

[230] The Mining (Environmental Protection for Small Scale Mining) Regulations, art. 19(1).

[231] Human Rights Watch interview with mining official, Chunya town, Chunya district, December 13, 2012.

[232] 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.

[233] Human Rights Watch interview with OSHA inspector, Ministry of Labour and Employment, Mbeya, December 7, 2012.

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

[235] National Strategic Plan for Mercury Management in Tanzania, pp. v-vi and arts. 1.2 and 1.3.

[236] Ibid., p. v.

[237] Ibid., p. vi.

[238] See UNEP, Draft Minamata Convention on Mercury, UNEP(DTIE)/Hg/INC.5/7, March 14, 2013, http://www.unep.org/hazardousubstances/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.

[239] Ibid., annex C (1)(b).

[240] Ibid., art. 16., annex C(1)(h).

[241] Ibid.

[242] 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.

[243] 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.

[244] Human Rights Watch interview with officials from the GCLA, Dar es Salaam, October 9, 2012.

[245] Human Rights Watch interview with official from the GCLA, Geneva, Switzerland, January 17, 2013.

[246] Human Rights Watch interviews with medical officers, Kahama town, Kahama district, October 16, 2012, and medical officers, Chunya town, Chunya district, December 13, 2012.

[247] Human Rights Watch interview with medical officers, Matundasi Ward, Chunya district, December 10, 2012.

[248] Human Rights Watch interview with clinical officer, Nyarugusu Ward, Geita district, October 11, 2012.

[249] Human Rights Watch interview with medical officers, Chunya town, Chunya district, December 13, 2012.

[250] Human Rights Watch interview with official from the GCLA, Geneva, Switzerland, January 17, 2013.

[251] Industrial Chemical and Consumer Chemicals (Management and Control) Act, arts. 11-15.

[252] Human Rights Watch interview with officials from the GCLA, Dar es Salaam, October 9, 2012.

[253] Agenda, Study on Impact of Mercury Use, p. 8.

[254] National Strategic Plan for Mercury Management in Tanzania, pp. iv-v.

[255] Human Rights Watch interview with gold traders, Chunya town, Chunya district, December 11 and 13, 2012.

[256] 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.

[257] 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.

[258] 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>.

[259] The World Bank, Implementation Status & Results, Tanzania, Sustainable Management of Mineral Resources, February 26, 2013, http://www-wds.worldbank.org/external/default/WDSP/SDN/2013/02/26/090224b0819628cd/1_0/Rendered/PDF/Tanzania000Sus0Report000Sequence007.pdf (accessed May 12, 2013).

[260] 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/WDSP/SDN/2013/02/26/090224b0819628cd/1_0/Rendered/PDF/E21380EA0AFR1E10Box33888B01PUBLIC1.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.

[261] Human Rights Watch telephone interview with Philippe Dongier, World Bank country director for Burundi, Tanzania, and Uganda, June 26, 2013.

[262] Ibid.

[263] 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/WDSP/IB/2009/05/20/000333037_20090520044020/Rendered/PDF/479260PAD0P096101Official0Use0Only1.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/WDSP/SDN/2013/02/26/090224b0819628cd/1_0/Rendered/PDF/Tanzania000Sus0Report000Sequence007.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/WDSP/SDN/2012/07/24/53B7A9E180799F9085257A45004B7129/1_0/Rendered/PDF/ISR0Disclosabl024201201343137441366.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/WDSP/SDN/2011/12/26/B550C0611649000485257972006C65CF/1_0/Rendered/PDF/P0963020ISR0Di026201101324928639433.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/WDSP/SDN/2011/09/07/46DC028F217970068525790400776F61/1_0/Rendered/PDF/P0963020ISR0Di007201101315431873184.pdf (accessed May 12, 2013).

[264] CEEST, Environmental and Social Management Framework, p. 78-79.

[265] Ibid.

[266] 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.

[267] The World Bank, Project Appraisal Document, paras. 31, 48.

[268] Ibid., para. 36; Human Rights Watch email correspondence with the World Bank task team leader for the SMMRP, April 29, 2013.

[269] Human Rights Watch telephone interview with Philippe Dongier, World Bank country director for Burundi, Tanzania, and Uganda, June 26, 2013.

[270] 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.

[271] 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).

[272] Human Rights Watch telephone interview with the World Bank task team leader for the SMMRP, April 29, 2013.

[273] Human Rights Watch telephone interview with World Bank mining specialist, May 8, 2013.

[274] Project Status- Africa, USDOL, accessed April 2, 2013, 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.

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

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

[277] 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.

[278] 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.

[279] 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.

[280] 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 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.

[281] 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.

[282] Ibid., p. 7.

[283] Ibid., p. 18.

[284] Jesper Bosse Jansson, 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.

[285] 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).

[286] 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>.

[287] 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 (accessed March 28, 2013); Enough, From Child Miner to Jewelry Store. The Six Steps of Congos Conflict Gold, October 2012, <http://www.enoughproject.org/files/Conflict-Gold.pdf> (accessed March 28, 2013).

[288] See the Legal Framework Section for details.

[289] 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>.

[290] 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.

[291] 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.

[292] The Mining Act, 2010, arts. 73-86.

[293] Ministry of Energy and Minerals, Small-Scale Gold Statistics for Human Rights Watch, October 2012 (on file with Human Rights Watch).

[294] The Mining Act, 2010, art. 18.

[295] Jansson and Ford, Handling Uncertainty

[296] Ibid.; Human Rights Watch interview with gold trader, Geita, October 12, 2012; Human Rights Watch interview with gold trader, Chunya, December 13, 2012.

[297] 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; Jansson and Ford, Handling Uncertainty.

[298] Human Rights Watch telephone interview with expert on gold trade, January 23, 2013.

[299] Ministry of Energy and Minerals, Small-scale gold statistics for Human Rights Watch, October 2012 (on file with Human Rights Watch).

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

[301] 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.

[302] See Child Labor Inspections in Small-Scale Mining: Few and Far Between Section

[303] Human Rights Watch interview with Michael H., age 13, Matundasi Ward, Chunya district, December 10, 2012.

[304] Human Rights Watch interview with Fumo D., age 15, Nyarugusu Ward, Geita district, October 14, 2012.

[305] 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.

[306] Human Rights Watch interviews with gold traders, Chunya town, Chunya district, December 11 and 13, 2012.

[307] Human Rights Watch interview with gold trader, Chunya town, Chunya district, December 13, 2012.

[308] Human Rights Watch interview with gold trader, Chunya town, Chunya district, December 11, 2012.

[309] 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.

[310] 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 (accessed March 28, 2013), sec. 4.4.

[311] Human Rights Watch interview with project consultant, Dar es Salaam, October 9, 2012.

[312] 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 Humans 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.

[313] 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.

[314] Worst Forms of Child Labor Convention, art. 3.

[315] 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.

[316] 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.

[317] Minimum Age Convention, art. 2(3).

[318] Ibid., art. 2(4).

[319] 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.

[320] Employment and Labour Relations Act, art. 5(1).

[321] 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.

[322] CRC, art. 28; ICESCR, art. 13.

[323] CRC, art. 32.

[324] 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.

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

[326] CRC, art. 4.

[327] African Charter on the Rights and Welfare of the Child, art. 11. The Protocol to the African Charter on Human and Peoples 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-online.org/root/au/Documents/Treaties/Text/Protocol%20on%20the%20Rights%20of%20Women.pdf> (accessed February 28, 2012).

[328] 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%20I_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).

[329] CRC, art. 19(1).

[330] CRC, art. 34; African Charter on the Rights and Wellbeing of the Child, art. 16(1), art. 27.

[331] 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).

[332] Law of the Child Act, art. 83.(1).

[333] ICESCR, art. 12; Banjul Charter, art. 16; CRC, art. 24; African Charter on the Rights and the Wellbeing of the Child, art. 14.

[334] 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).

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

[336] CESCR, General Comment No. 14, para. 43.

[337] Ibid., para. 44.

[338] ICESCR, art. 12.

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[340] CESCR, General Comment No. 14, para. 15.

[341] 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 (accessed March 19, 2013).

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[343] CESCR, General Comment No. 14, para. 15.

[344] CRC, art. 24(1), 24(2)(c).

[345] African [Banjul] Charter on Humans and Peoples Rights (Banjul Charter), art 24.

[346] The Protocol to the African Charter on Human and Peoples Rights on the Rights of Women in Africa, arts. 18-19.

[347] 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

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