All That is Gold Does Not Glitter: Mercury Exposure to Children in Artisanal and Small Scale Gold Mines and the Inadequacy of the Minamata Convention

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"ALL THAT IS GOLD DOES NOT GLITTER": MERCURY EXPOSURE TO CHILDREN IN ARTISANAL AND SMALL SCALE GOLD MINES AND THE INADEQUACY OF THE MINAMATA CONVENTION

By Andreia L. Bento

I. INTRODUCTION

“When governments fail to protect children from exposure to hazardous substances, this constitutes a violation of their rights...”  

These were words spoken by Juliane Kippenberg, an Associate Director of the Children's Right Division of Human Rights Watch, at the 2016 Day of General Discussion held by the United Nations Human Rights Office of the High Commissioner.  

Every day, around the world, children are exposed to harmful chemicals and toxins that leave them with serious illnesses, developmental issues, and uncertain futures.  

In particular, children working in artisanal and small scale gold mines, in which “small groups of people engage in low-cost, low-tech, labor intensive excavation and procession of gold,” are one of the most affected groups of children exposed to toxic elements and chemicals, especially mercury.  

The World Health Organization has recognized mercury as one of the top ten chemicals to be of major public health concern.  

Children often are left with no choice other than to abandon their schooling to work in these mines, where

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3 Id.  
they endure long, arduous hours doing back breaking work which exposes them to mercury, one of nature’s most toxic and deadly elements to humans and children in particular.  

The rising demand for gold and its consistently increasing prices have caused an increase in the number of artisanal and small scale gold mines located around the world, and subsequently has increased the population of child miners. According to the United States Department of Labor, 22 countries are known to use child labor in their gold mines, especially in their artisanal and small scale gold mines. Artisanal and small scale gold mining has become a main source of income for an estimated 10 to 20 million miners in approximately 70 developing countries. The World Bank considers artisanal gold mining to be a potential economic source for development and poverty relief in these countries because it generates incomes that are two to four times higher than the incomes for people working solely in agriculture. However, not all that is gold, glitters; and artisanal and small scale gold mining does not provide a bright future for children stuck digging for gold.

The purpose of this Note is to establish that children in countries where child labor is used in artisanal and small scale gold mines are being exposed to high levels of mercury. That exposure negatively affects their health, safety, and development. Many of these children are forced to work in deplorable conditions and are exposed to mercury, a toxic element that is vastly used in small scale mines to extract gold from the ore. According to the Environmental Protection Agency, roughly “about 20% of the world’s gold is produced by the artisanal and small scale gold mining sector.” While laborers working in these types of mines recognize that mercury is very dangerous, they fail to properly handle this toxic element which exposes them, other workers, and their family members to mercury poisoning.

Some tentative steps have been taken on an international level to address the exposure to mercury under the 2013 Minamata Convention on Mercury (“Minamata

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12 Id.
13 Morna, supra note 5.
14 See id.
15 Id.
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Convention”).19 However, the Minamata Convention does not adequately protect children working in artisanal and small-scale gold mines from mercury exposure.20 While the Minamata Convention addresses generally the subject of protections of children from mercury exposure, it is inadequate as it presently stands to specifically protect child laborers in artisanal and small scale gold mines from high levels of mercury exposure.21

Section II of this Note establishes that the exposure of child laborers in artisanal and small scale gold mines to high levels of mercury endangers their health and development.22

Section III analyzes the global gold industry and the vital role it plays in the global economy.23 Section IV analyzes the inadequacy of domestic and international laws to protect child labor in artisanal and small scale gold mines from high levels of mercury exposure, using Ghana, Tanzania, Mali, and Burkina Faso as illustrative case studies.24 Section V, proposes that the Minamata Convention needs to be amended and strengthened to be consistent with current and emerging fundamental international human rights law that protects the health and safety of the child. In addition, the gold industry itself should, as a matter of corporate responsibility, strive to implement a corporate code, consistent with international laws, that would assure the health and safety of children exposed to mercury from artisanal and small scale gold mines.

II. CHILD LABORERS IN ARTISANAL AND SMALL SCALE MINES ARE EXPOSED TO HIGH LEVELS OF MERCURY ENDANGERING THEIR HEALTH AND DEVELOPMENT.

This section establishes the extensive use of child labor in artisanal and small scale gold mines exposes child miners to high levels of mercury, which in turn endangers their health, safety, and development.25 It discusses the conditions under which children around the world work in artisanal and small scale mines, the types of jobs child miners perform in the

19 See generally Minamata Convention on Mercury, art. 7, opened for signature Oct. 10, 2013, UNEP.
21 See id.
gold mines, as well as the various harmful effects on the human body of prolonged exposure to mercury.  

A. Child labor is extensively used in artisanal and small scale gold mines.

The International Labour Organization (ILO) has declared that artisanal and small scale gold mines fit the description of the “worst form of labor” since they could damage the health, safety, and well-being of child miners. The ILO defines “child labor” as, “work that deprives children of their childhood, their potential and their dignity, and that is harmful to their physical and mental development.” The ILO clarifies that not all work that a child does is considered child labor, but work that is “mentally, physically, socially or morally dangerous and harmful to children; interferes with their schooling by depriving them of the opportunity to attend school or obligating them to leave school prematurely or requiring them to attempt to combine school attendance with excessively long and heavy work” qualifies as child labor. The number of children forced into some form of child labor around the world is estimated to be 168 million, almost 11 percent of the worldwide population of children. The number of children working in conditions harmful to their health, safety and development is estimated to be about 85 million.

There is an estimated one million children working in artisanal and small scale gold mines. These children usually start working in these mines as young as 5 or 6 years old. In general, the younger the child, the less strenuous the task they are assigned, however, in some circumstances, they still must do very demanding work. At around the ages of 12 to 14 children begin working full time, roughly 8 to 14 hours a day, with the norm being about 6 to

30 Id.
32 Id.
35 See generally Mottaz, supra note 18.
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Children nearly work every day of the week, periodically getting one day off during the weekend. These child laborers often rely upon their income from working at the mines to increase their family’s income, and they commonly work alongside their parents. Miners that work in artisanal and small scale gold mines are paid very little, 5,000 francs or 5 dollars a day, causing parents to recruit their children to labor in the mines in order to have more money for overall household costs and to feed their family. In other situations, the children join the mines because they have no other option. In an interview with National Public Radio (NPR), Patrick Bwana, a 12 year old child from Congo explained why he was working in these mines: “I used to go to school, but my father died, and no one paid for my studies anymore.” In many countries with artisanal and small-scale gold mines where child labor is relied upon, the school dropout rate is very high. For example, in 2014 Uganda’s enrollment rates for secondary school were about 24.1 percent, compared to a 93.7 percent enrollment rate for primary school.

In Ghana, many school children start working part time in mines during breaks from school and eventually discontinue their education because the appeal of earning an income outweighs any perceived benefit from attending school. It is also common for child miners, especially young boys, to turn to drugs and alcohol in hopes of becoming “stronger and more able to cope with the harshness of the underground environment and work.” Young girl miners face the additional prospect of sexual assault, teenage pregnancy, and sexually transmitted diseases. The increase in the number of adult male miners in small scale mines has been linked with an increase in prostitution by young girls in places like Ghana and Tanzania. In 2013, a survey conducted by Plan International revealed that 19.2 percent of children working were victims of sexual abuse.

B. Child labor in artisanal and small scale gold mines exposes children to high levels of mercury.

Explosions, falling rocks and tunnel collapses are not the only kinds of physical dangers children working in artisanal and small scale gold mines face every day; they are subject to digging, milling and hauling heavy bags of ore on their heads and backs, sometimes
in the hot sun for hours. In addition, they are exposed to dirty air often mixed with toxic gases, including mercury.

Artisanal and small scale gold mining processes are different from large scale mining by major gold mining companies. In artisanal and small scale gold mining, miners dig deep tunnels and wells for gold-containing ore, a process called “extraction.” The ore is then crushed by hand with blunt, everyday instruments, like a hammer, and then ground up using a mill that leaves the ore in a very fine powder. The powdered ore is washed and sifted out by hand with pans, a process known as “panning.” Liquid elemental mercury is added to the fine powder to form an amalgam consisting of mercury and gold. At this point in the artisanal mining process, mercury poses the biggest risk to the individual handling it.

To release the gold from the ore, the amalgam needs to be heated which causes the mercury to evaporate and release the gold from the ore. The evaporated mercury is colorless and odorless and the hotter it burns, the more vapors it releases, thus making it even more poisonous to those exposed to the fumes. Burning liquid mercury to extract gold from ore is a cheap and easy method and for these reasons it is widely used in artisanal and small scale miners.

As the price of gold has risen over the last ten years, a “gold rush” has been triggered in artisanal and small scale miners. There are two primary ways that a child miner may be exposed to mercury. First, miners burn the mercury and gold amalgam, the mercury evaporates during this stage of mining, the toxic mercury is released into the atmosphere and inhaled by the child miner and others in the surrounding area. This immediate exposure is called “direct exposure,” and 80 percent of mercury vapors can be absorbed in the lungs through this exposure when it is being burned.

The second way child miners can be exposed to high levels of mercury is through “indirect exposure,” which occurs when the vapors of elemental mercury settle and contaminate the surrounding areas and surfaces, such as clothing, walls, and any other objects that are in the vicinity of the burning amalgam. Indirect exposure may be as dangerous as direct exposure because vapors from the burning amalgam attach themselves to various

50 Mottaz, supra note 18.
51 Id.
52 Moher, supra note 25.
53 Id.
54 Id.
55 Id.
56 Id.
57 Id.
58 Gibb & O’Leary, supra note 22.
60 Moher, supra note 25.
61 Gibb & O’Leary, supra note 22.
62 Moher, supra note 25.
63 Id.
64 Id.
65 Id.

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objects and release the poisonous fumes for a long time period after the amalgam has burned.\textsuperscript{66} Even after the burning of the amalgam has stopped and the liquid mercury has completely evaporated, the vapors absorbed by objects and surfaces are emitted causing harm even to people not in the vicinity of the burning mercury.\textsuperscript{67} For example, mercury vapors can attach to the clothing of the miner, and can later be released inside the miners home after they return from the mines exposing their children and family members.\textsuperscript{68} The vapors attach to the clothing and slowly release the poisonous gas.\textsuperscript{69}

Despite these hazardous conditions, children play important roles throughout this whole goal mining process. Their small size allows them to go deeper into the tunnels and shafts, digging for the gold ore during extraction.\textsuperscript{70} In some locations, they work up to 24 hour shifts in deep and unstable pits where they risk injury and breath in mercury, constantly putting their lives in danger.\textsuperscript{71} For example, in Mali, it has been estimated that 200,000 child gold miners, girls as young as 8 and boys as young as 12, are working in the mines.\textsuperscript{72} Children miners wash the ore, transport it on their backs or heads, process, crush, grind, pound and pan the gold ore, as well as fetch water and take care of the younger children on site.\textsuperscript{73} In many artisanal and small scale gold mines, children often use their bare hands to mix the gold and mercury together to make the amalgam, which directly exposes the children to the mercury and puts their health and safety in danger.\textsuperscript{74}

C. Mercury exposure endangers children laborer’s health and development.

The list of harmful health effects of mercury on the human body is long and well-established.\textsuperscript{75} Humans in contact with mercury on a daily basis have consistently reported a high incidence of suffering from these harmful effects.\textsuperscript{76} Children are especially vulnerable since they are going through stages of growth and development.\textsuperscript{77} Dangers to children from artisanal and small scale gold mine mercury exposure are not limited to only children miners, through indirect exposure children who do not work in mines but are in the surrounding areas of the mines may also be affected.\textsuperscript{78}

Children exposed to mercury after birth also face devastatingly negative health effects.\textsuperscript{79} Child miners inhale harmful mercury vapors and absorb the highly toxic fumes

\textsuperscript{66} Id.
\textsuperscript{67} Id.
\textsuperscript{68} Id.
\textsuperscript{69} Id.
\textsuperscript{70} Mottaz, supra note 18.
\textsuperscript{71} Coursen-Neff, supra note 26.
\textsuperscript{72} Schipper, supra note 4.
\textsuperscript{73} Id.
\textsuperscript{74} Morna, supra note 5.
\textsuperscript{75} Moher, supra note 25; See also Public Health Statement for Mercury, supra note 59.
\textsuperscript{76} Stephan Bose-O'Reilly, Kathleen M. McCarty, Nadine Steckling, & Beate Lettmeier, Mercury Exposure and Children's Health, 40 CURRENT PROBS. IN PEDIATRICS AND ADOLESCENT HEALTH CARE 186 (2010), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3096006.
\textsuperscript{77} Id.
\textsuperscript{78} Id.
\textsuperscript{79} See generally id.
though their respiratory tract.\textsuperscript{80} About 70\% to 85\% of inhaled mercury is absorbed into bloodstream.\textsuperscript{81} Studies have shown that mercury flows from the pharynx into the brain through the olfactory neurons.\textsuperscript{82} The central nervous system, digestive tract and immune systems all are effected by mercury inhalation.\textsuperscript{83} Acute mercury intoxication in children causes bronchitis, pneumonia, gastroenteritis, muscular hyptonia, negative behavior, apathy, weight loss, ataxia, coordination problems,\textsuperscript{84} tremors, mood swings, insomnia, kidney and respiratory failures and death.\textsuperscript{85}

The most critical developmental stages at which children can be exposed to mercury and be harmed by it are in the preconception, gestation and postnatal stages, particularly because that is when the central nervous system is developing.\textsuperscript{86} Women miners of child bearing age and pregnant women can easily pass mercury through the placenta and umbilical cord and into the fetus.\textsuperscript{87} The fetus cannot excrete the mercury, and it accumulates in the womb, often to life threatening levels.\textsuperscript{88} Fetuses exposed to mercury while in the womb are at a higher risk of being born with defective cognitive thinking, memory, attention, language and fine motor skills, as well as mild mental retardation.\textsuperscript{89} A recent study established that children exposed to mercury while in their mother's wombs are at a much higher risk of developing Attention Deficit Hyperactivity Disorder than unexposed children because of the rapid growth of the human brain in utero.\textsuperscript{90}

When mercury is burned and expelled into the atmosphere, soil and water in the area are also contaminated by toxic vapors and ore tailings.\textsuperscript{91} When the soil, water, and atmosphere become polluted with mercury, it puts even non-miners living in the mining community at serious risk of exposure, especially if the mercury enters the waterways and in turn, becomes absorbed by edible fish in the streams.\textsuperscript{92} When this occurs, the mercury turns into methylmercury, which builds up in the food chain and causes exposure when humans eat the contaminated fish.\textsuperscript{93} Methylmercury affects the nervous, cardiovascular, and urinary systems of the body.\textsuperscript{94} Children born with methylmercury exposure have a higher risk of many of the same defects and serious health issues that a child born with elemental mercury exposure would have with the additional risk of cerebral palsy, epilepsy, and vision or hearing.

\textsuperscript{80} Id.
\textsuperscript{81} Id.
\textsuperscript{82} Id.
\textsuperscript{83} WORLD HEALTH ORG., supra note 7.
\textsuperscript{84} Bose-O'Reilly, supra note 76.
\textsuperscript{86} Bose-O'Reilly, supra note 76.
\textsuperscript{87} Id.
\textsuperscript{88} Id.
\textsuperscript{89} WORLD HEALTH ORG., Mercury and Health (Jan. 2016), http://www.who.int/mediacentre/factsheets/fs361/en.
\textsuperscript{90} Maria Cone, Kids Exposed to Mercury or Lead More Likely to Experience Attention Deficit, SCIENTIFIC AMERICAN (Sept. 21, 2012), https://www.scientificamerican.com/article/kids-exposed-to-mercury-or-lead-more-likely-to-experience-attention-deficit.
\textsuperscript{91} U.S. Dep't of State, Bureau of Oceans & Int'l Envtl. & Sci. Aff., supra note 9.
\textsuperscript{92} Moher, supra note 25.
\textsuperscript{93} Id.
\textsuperscript{94} Id.
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Prenatal Chronic Methylmercury Exposure symptoms may emerge at the time of birth and can also be manifested later in the child's life. Children exposed to methylmercury after birth can experience excessive salivation, ataxia, hypertension, heart attacks, and renal failure are some of the common symptoms.

In many nations where artisanal and small scale gold mining is prevalent, healthcare systems are inefficient and not prepared to diagnose, prevent, or treat mercury exposure and intoxication in children, and these services rarely available to child gold miners. Mercury exposure symptoms are often not readily apparent and thus proper diagnosis requires a complete medical and environmental history, a physical examination, and a human tissue mercury measurement is necessary. Mercury levels may be measured in a person’s urine, blood, hair, breast milk, feces, nails, and umbilical cord blood. Once diagnosed, there is no reliable method to treat mercury intoxication. Chelation therapy, for example, has not been proven to help with mercury poisoning. The only sure way to treat mercury exposure successfully is to prevent it and take steps to eliminate exposure.

III. THE BUSINESS OF GOLD MINING

The business of gold is one of the most powerful and lucrative businesses worldwide. Since 2010, there has been a shift in central banks around the world from acting as net gold sellers to net gold buyers. In the last year alone, 483 tons of gold were purchased collectively by many national central banks. According to the World Gold Council, as of May 2016, most of the world’s central banks owned about 17.8 percent of the total amount of gold ever mined. In June of 2015, the World Gold Council reported that gold mining contributed 83.1 billion US dollars to the global economy in 2013. Gold’s indirect economic impact increases to 171.6 billion US dollars.

95 Id.
96 Bose-O’Reilly, supra note 76.
97 Moher, supra note 25.
98 Morna, supra note 5.
99 Bose-O’Reilly, supra note 76.
100 Id.
101 See Swaran J.S. Flora & Vidhu Pachauri, Chelation in Metal Intoxication, 7 INT’L. J. ENVTL. RES. AND PUB. HEALTH 2746 (2010), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2922724. Chelation therapy is where chelating agents are used to bind toxic metal ions into complex molecular structures that reduce the poisonous effect of metals in the human body. Id.
102 Bose-O’Reilly, supra note 76.
103 Id.
104 Id.
106 Id.
107 Id.
108 Id.
110 Id.
Gold is used not only for purposes of being stored by most of the world’s central banks.\textsuperscript{111} Gold can also be found anywhere from your mother’s jewelry box, to the smartphone in your pocket, to the medical diagnostic tool used in your most recent medical exam.\textsuperscript{112} These widely varying uses of gold result in a continual heavy and increasing market demand for the precious metal which, in turn, produces an increased demand for mines and processors to supply the gold.\textsuperscript{113} In certain places such as Mali, informal artisanal gold mining has grown to a point that matches the production quotas of large scale gold mines, thanks to the increase in demand from gold refineries.\textsuperscript{114} Often, gold that ends up in the supply chains includes gold that has been mined by child miners in life-threatening conditions.\textsuperscript{115} About 10 percent of the total global gold supply is mined in artisanal and small scale gold mines.\textsuperscript{116} The global gold trade has been described as a funnel, where gold from all different places gets sold to a increasingly fewer companies until it ends up at one of the ten gold refineries around the world.\textsuperscript{117} Virtually every segment of the gold business involves gold mined in a way that exposes children to mercury.\textsuperscript{118}

Jewelry companies in different areas of the world have taken some steps to ensure that their supply chains do not include any illegally mined gold that exposes children to mercury.\textsuperscript{119} For example, the Swiss refining company Produits Artistiques Metaux Precieux\textsuperscript{120} has decided to only buy Ghanaian gold from artisanal and small scale gold mines that are legal and who have had their labor conditions verified.\textsuperscript{121} Other refiners and companies have decided to purchase from traders that adhere to the Fairtrade International Standards,\textsuperscript{122} which works to “promote sustainable development and to reduce poverty through fairer trade.”\textsuperscript{123} In the technological industry, a group called the Electronic Industry

\textsuperscript{112} Id.
\textsuperscript{115} See id.
\textsuperscript{117} Masterwille, supra note 8.
\textsuperscript{118} See generally id.
\textsuperscript{120} About PAMP, PAMP, http://www.pamp.com/aboutus (last visited Feb. 2, 2017). Produits Artistiques Metaux Precieux (PAMP) is one of the leading bullion brand around the world that specializes in precious metals. It endeavors to maintain sustainability and accountability in the world of precious metals and when dealing with artisanal and small scale gold mines, it provides extra support to these mines. PAMP also is a major figure in formulating and implementing responsible practices in supply chains in the precious metals industry. Id.
\textsuperscript{121} Kippenberg, supra note 119.
\textsuperscript{122} Id.
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Citizenship Coalition has formed to encourage big players in the electronics industry to supervise their supply chains to confirm that they are not contributing to the negative social and environmental impacts gold mining has by using “direct and indirect partnerships and international standards” as their guide.\textsuperscript{126}

\section*{IV. DOMESTIC AND INTERNATIONAL LAW ARE INADEQUATE TO PROTECT CHILD LABORERS IN ARTISANAL AND SMALL SCALE GOLD MINES FROM HIGH LEVELS OF MERCURY EXPOSURE.}

This section establishes that the Minamata Convention is an inadequate treaty to protect children subject to child labor and exposed to mercury in all countries where artisanal and small scale gold mines operate.\textsuperscript{125} It also establishes how the Minamata Convention’s failure to protect children from mercury exposure in artisanal and small scale gold mining is inconsistent with fundamental international human rights laws.\textsuperscript{126} Additionally, this section also establishes the gold mining industries’ failure to adequately protect children exposed to mercury in artisanal and small scale gold mines, and how that failure is inconsistent with emerging international standards of corporate responsibilities.\textsuperscript{127}

\subsection*{A. Current domestic laws are inadequate to protect child labor in all countries where artisanal and small scale gold mines operate.}

As a result of the ever increasing negative effects of mercury emissions and exposure, the international community came together in 2013 to create a treaty to address these issues.\textsuperscript{128} In part, the reason a need for this treaty arose was because the domestic laws of many of the countries with substantial artisanal and small scale gold mining activity, like Ghana, Mali, Tanzania, and Burkina Faso, were inadequate and failed to address mercury exposure, in particular the use of mercury in small scale gold mining.\textsuperscript{129}

In Ghana, for example, the government has made various attempts to implement laws and regulations to protect children from harmful working conditions, such as gold mining.\textsuperscript{130} In 1998, Ghana passed The Children’s Act, to “reform and consolidate the law

\begin{footnotes}
\item[125] Bienkowski, supra note 20.
\item[129] Minamata Convention on Mercury, art. 7, opened for signature Oct. 10, 2013, UNEP.
\end{footnotes}
relating to children, to provide for the rights of the child, maintenance and adoption, regulate child labor and apprenticeship, for ancillary matters concerning children generally and to provide for related matters." In addition, Ghana also was one of the first countries to ratify the Convention on the Rights of the Child, which will be further discussed later on in this Note. Despite these laws and regulations, Ghana continues to have a very high percentage of children working in unacceptable child labor conditions. Experts attribute this high percentage of child labor to many reasons, one of which being the nation’s poor economic stability and its effect on families and individual Ghanaians. Regardless of the programs put in place to attempt to enforce and meet the Children’s Act of 1998 and the Convention on the Rights of the Child, the serious economic trouble which Ghana has been suffering since the 1980s has prevented much needed funds from being put towards these programs that strive to end child labor in many industries, especially in the artisanal and small scale gold mining industry.

Mali is another example of a country that has put in place many laws and regulations in an attempt to eradicate child labor, but whose laws have not been adequate. Various codes limiting the age in which children can work in different industries nonetheless allow for loopholes such as a decree from 1996 that allows children between the ages of 16 to 18 to work in some dangerous tasks. Regulation of child labor is under the jurisdiction of various government departments and their inspectors, and while those inspectors supervise labor inspections in the formal sector, they do not have the time or resources to enforce the many child labor laws. According to the Department of Labor, “due to the military coup and subsequent suspension of foreign aid, funds for the labor inspectorate are at a strict minimum and funds are rarely allocated to regional labor inspectors.” In both of the countries mentioned above, it seems like the problem of enforcement of child labor laws is not due to the lack of concern for the children but the lack of financial ability to fund the programs that would enforce and promote the laws and regulations.

Yet another example of a state with inadequate child labor laws is Tanzania. Tanzania and its semi-autonomous region Zanzibar have conflicting laws regarding child labor, especially the minimum age required to work. In Zanzibar, there are two laws that provide two different ages at which children can begin working, one stating 15 and the other stating 17. On the other hand, Tanzania’s law states that children can begin


The Children’s Act, 1998 (Act No. 560) (Ghana), http://www.unesco.org/education/edurights/media/docs/7a7a002205e07f6119bc00c8bd320a438b37f.pdf.

IMOH & ANSELL, supra note 130.

Id.

Id.

Id.


Id.

Id.

Id.


Id.
working at the age of 14. This leaves one state with three different statutory minimal age requirements, and lots of confusion surrounding the regulations on child labor. The Tanzanian government coordinated efforts in order to address the issue of child labor by creating various committees, specifically the National Inter-Sectoral Coordination Committee (NISCC). NISCC was created, amongst other things, to “strengthen local structural capacity to address child labor.” Unfortunately, the NISCC never met to discuss their duties and obligations and no viable solutions or strides have been made in an attempt to eradicate child labor.

Of the case studies discussed in this Note, Burkina Faso is the one country that has made the most significant advancement according to the Department of Labor. In June 2015, the government adopted a new mining code that addressed child labor in gold mines. This new code included 2 to 5 years of imprisonment and a fine ranging from 8,200 US dollars to 41,000 US dollars for any offender who employed children in their mines. The government also has about 124 labor inspectors that are tasked with conducting labor inspections to assure that child labor is not being used. Unfortunately, the government has stated that it does not have enough resources to conduct the labor inspections throughout the whole country and has recruited the police to enforce the criminal side of child labor. Despite this, there is still not a big enough force to combat and eradicate child labor given the scope of the problem and the lack of funds and resources.

B. The Minamata Convention is inadequate to protect child labor in all countries where artisanal and small scale gold mines operate.

The Minamata Convention on Mercury addresses mercury exposure and pollution in various worldwide industries where mercury is or was widely used. The Minamata Convention was named after Minamata, Japan, the location of the first large scale mercury poisoning that occurred in the 1950s where roughly 1,700 people died and even more were left incapacitated as a result of consuming mercury poisoned fish. The Minamata Convention, in part, attempts to prohibit new mercury mines, to phase out of use of existing mines, to reduce mercury use in numerous products and processes, to regulate quantities of emissions into the atmosphere and environment, and importantly, to regulate artisanal and
small scale gold mines.\textsuperscript{155} To date, 128 countries have signed the Minamata Convention, however, only 35 (out of the necessary 50) of those signatories have ratified the convention and have become parties to the treaty, and as a result, the Minamata Convention has not yet entered into force.\textsuperscript{156} Ghana, Mali, Tanzania, and Burkina Faso are all signatories to the Minamata Convention and, ironically, these are some of the countries with the most artisanal and small scale gold mines.\textsuperscript{157} Of those four nations, only Mali has ratified the Minamata Convention to date.\textsuperscript{158}

The Minamata Convention states that mercury use should be phased out in most products by 2020, and it gives countries 10 years after the treaty has entered into force to establish goals to reduce mercury emissions from sources that are currently existing.\textsuperscript{159} But the 2020 phase out and 10 year deadline to establish goals to eradicate the use of mercury operate only once the Minamata Convention enters into force, which requires the ratification of 50 countries, well above the number of current countries who have ratified.\textsuperscript{160} The result is that the Minamata Convention as a whole is unlikely to be relevant legally to prevent mercury exposure to child gold miners for decades into the future, if at all.

The Minamata Convention attempts to address the use of mercury in small scale gold mining.\textsuperscript{161} It specifically states that nations should take steps to “reduce and where feasible, eliminate the use and release of mercury and mercury compounds in, and the emissions and releases to the environment of mercury from, such mining and processing.”\textsuperscript{162}

\textsuperscript{157} \textit{Id.}
\textsuperscript{158} \textit{Id.}
\textsuperscript{159} Kessler, \textit{supra} note 128.
\textsuperscript{161} \textit{Id.}
\textsuperscript{162} Minamata Convention on Mercury, art. 7, \textit{opened for signature} Oct. 10, 2013, UNEP. Article 7 provides:
1. The measures in this Article and in Annex C shall apply to artisanal and small scale gold mining and processing in which mercury amalgamation is used to extract gold from ore.
2. Each Party that has artisanal and small scale gold mining and processing subject to this Article within its territory shall take steps to reduce, and were feasible eliminate, the use of mercury and mercury compounds in, and the emissions and releases to the environment of mercury from, such mining and processing.
3. Each Party shall notify the Secretariat if at any time the Party determines that artisanal and small scale gold mining and processing in its territory is more than insignificant. If it so determines the Party shall:
   a. Develop and implement a national action plan in accordance with Annex C;
   b. Submit its national action plan to the Secretariat no later than three years after entry into force of the Convention for it or three years after the notification to the Secretariat, whichever is later; and
   c. Thereafter, provide a review every three years of the progress made in meeting its obligations under this Article and include such review in its reports submitted pursuant to Article 21.
4. Parties may cooperate with each other and with relevant intergovernmental organizations and other entities, as appropriate to achieve the objectives of this Article. Such cooperation may include:
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Unfortunately, the Minamata Convention does not ban the use of mercury in small scale mining. Rather, it allows miners to continue to use mercury and it fails to provide a phase out date for mercury used in artisanal and small scale gold mines. This vague, general provision is inadequate to protect children from mercury exposure and poisoning.

Article 7 of the Convention states:

Each party shall notify the Secretariat if at any time the Party determines that artisanal and small-scale gold mining and processing in its territory is more than insignificant. If it so determines the party shall develop and implement a national action plan in accordance with Annex C and submit its national action plan to the Secretariat no later than three years after entry into force of the Convention for it of three after the notification to the Secretariat, whichever is later.

Annex C of the Convention, includes 11 points that “shall” be included in the national action plans of countries that believe that artisanal and small scale gold mining is more than insignificant. Some of these obligations call for “actions to eliminate whole ore amalgamation, open burning of amalgam or processed amalgam, burning of amalgam in residential areas” as well as “steps to facilitate the formalization or regulation of the artisanal and small scale mining sector” and “strategies for promoting the reduction of emission and releases of, and exposure to, mercury in artisanal and small scale gold mining and processing, including mercury-free methods.” Article 7 and Annex C of the Minamata Convention do not mandate any steps for nations to implement any adopted national action plans. This proposed duty to cooperate is a step in the right direction but since it is not obligatory for the parties to adhere to these steps, it is at their discretion whether they want to follow these obligations. Article 7 merely suggests that “such cooperation may include” [emphasis added] the list of obligations in §4(a)-(f).

a. Development of strategies to prevent the diversion of mercury or mercury compounds for use in artisanal and small scale gold mining and processing;

b. Education, outreach and capacity-building initiatives;

c. Promotion of research into sustainable non-mercury alternative practices;

d. Provision of technical and financial assistance;

e. Partnerships to assist in the implementation of their commitments under this Article; and

f. Use of existing information exchange mechanisms to promote knowledge, best environmental practices and alternative technologies that are environmentally, technically, socially and economically viable. Id.


Kessler, supra note 128.

Minamata Convention on Mercury, supra note 19.


Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.

Id.
any additional steps that countries can follow to specifically eradicate mercury usage in artisanal and small scale gold mines.\textsuperscript{171}

Another inadequacy of the Minamata Convention is the language in \S\textsuperscript{3} of Article 7.\textsuperscript{172} Section 3 states, “each party shall notify the Secretariat if at any time the Party determines that artisanal and small scale gold mining and processing in its territory is \textit{more than insignificant}” [emphasis added].\textsuperscript{173} By stating that the parties are only required to notify the Secretariat if they believe that artisanal and small scale gold mining is “more than insignificant,” leaves this open to the interpretation and discretion of the parties.\textsuperscript{174} Since the parties would be the ones determining the number of mines that would constitute “more than insignificant,” this opens up the possibility that any party wanting to avoid their responsibilities under the Minamata Convention to avoid notifying the Secretariat and claim that the amount of artisanal and small scale gold mines in their territory does not satisfy the standard set in the Minamata Convention.\textsuperscript{175}

The inadequacies of the Minamata Convention are ameliorated to some extent by a new program created by the Global Environment Facility\textsuperscript{176} called Global Opportunities for Long-term Development of the Artisanal and Small Scale Gold Mining Sector (GOLD) which was introduced on December 5, 2016.\textsuperscript{177} This program is meant to formalize artisanal mines through funding, and through the formation of policies, incentives and networking with supply chains that use less mercury in their gold extraction.\textsuperscript{178} The GOLD program will hope to provide about 45.2 million dollars to countries that have substantial artisanal and small scale gold mining activity in hopes to support these small scale gold mines and help them phase out the use of mercury in their mining processes.\textsuperscript{179} Four implementing agencies from the United Nations are to carry out the projects in only a limited number of states with artisanal gold mining, nevertheless, it is uncertain if the other countries with artisanal gold mining will also receive funding and aid from the GOLD program.\textsuperscript{180} However, since the GOLD program is so new, it is also uncertain the extent to which GOLD will work to achieve any goals of the Minamata Convention and achieve any meaningful cures to the many inadequacies in the Minamata Convention.

The Minamata Convention is a noble attempt to reduce the use of mercury worldwide but there are many inconsistencies and inadequacies that need to be addressed.

\textsuperscript{171} id.
\textsuperscript{172} id.
\textsuperscript{173} id.
\textsuperscript{174} id.
\textsuperscript{175} id.
\textsuperscript{176} About Us, GLOBAL ENVIRONMENTAL FACILITY (2016), http://www.thegef.org/about-us.

The Global Environment Facility is a group of international agencies that work to address the biggest environmental issues on the planet while also providing funding to combat poverty and fight for greater equality between men and woman and to create a more sustainable world. \textit{Id.}


\textsuperscript{178} id.


\textsuperscript{180} id.
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Regardless, this Note discusses the most important inadequacy regarding child labor, the prolonged exposure children suffer while extracting the gold from the mines. The Minamata Convention cannot deviate from human rights standards and laws as it currently does.

C. The Minamata Convention’s failure to protect children from mercury exposure in artisanal and small scale gold mining is inconsistent with fundamental international Human Rights law.

The Minamata Convention fails to protect children from mercury exposure and is inconsistent with established and emerging hard\(^1\) and soft\(^2\) international human rights law. Children have a special status within international laws.\(^3\) That hard and soft international human rights laws are illustrated by examining The Convention on the Rights of the Child and the African Charter on the Rights and Welfare of the Child. Since they are children who have not yet reached the levels of maturity, knowledge, and experience that adults have, they are entitled to individual rights that guard them from situations that may put in danger their health, safety, development, and education.\(^4\) This special status was first established in the 1924 Geneva Declaration of the Rights of the Child, which lays out that, “the child, by reason of his physical and mental immaturity, needs special safeguards and care, including appropriate legal protection, before as well as after birth.”\(^5\)

The United Nations Convention on the Rights of the Child, which came into force in September 1990, expanded the original 1924 Declaration by including numerous articles specifying which rights children were entitled to.\(^6\) Amongst the many rights enumerated, Article 24 and Article 32 deserve special mention regarding the issue of artisanal and small scale gold mines.\(^7\) Article 24 discusses the right of the child to have access to the highest level of health care possible, specifically calling for the abolishment of any practices that are harmful to a child’s health.\(^8\) It says, “states parties shall take all effective and appropriate measures with a view to abolishing traditional practices prejudicial to the health of children.”\(^9\) The Minamata Convention ignores Article 24.\(^10\) It does not provide a ban to the

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\(^1\) Kenneth W. Abbott & Duncan Snidal, Hard and Soft Law in International Governance, Int’l Org. 54, 421 (2000). Hard law is “legally binding obligations that are precise or made precise through adjudication or the issuance of detailed regulations.” In other words, hard law is written law like treaties, conventions, and statutes. Id.

\(^2\) Soft Law Law and Legal Definition, US LEGAL, https://definitions.uslegal.com/s/soft-law/ (last visited Feb. 3, 2017). Soft law are rules and principals that are not strictly binding on the parties they may relate to. Examples of soft laws are guidelines, policies, principals, and codes of conduct. Id.


\(^6\) Id.

\(^7\) See id.

\(^8\) Id.

\(^9\) Id.

use of mercury in artisanal and small scale gold mining and merely recommends that parties “should” take “steps to reduce and where feasible eliminate” the use of mercury in the mining process.\(^1\)

It is no secret that there are children miners working in these types of mines all over the world and yet the Minamata Convention makes no mention of them throughout the whole of Article 7.\(^2\)

Article 32 of the Convention on the Rights of the Child discusses the child’s right to be protected against doing dangerous work that negatively affects the child’s “health or physical, mental, spiritual, moral or social development,” and education.\(^3\) This provision highlights the kind of work that the ILO has long said constitutes “child labor.”\(^4\) Again, the Minamata Convention does not mention children throughout all of its Article 7.\(^5\)

The Minamata Convention should have at a minimum included a provision in the artisanal and small scale gold mining section that would prohibit the use of mercury by children working in small scale gold mines. As it presently stands, the Minamata Convention fails to adhere to the norms and rights established by the Convention on the Rights of the Child.\(^6\)

One year after the Convention on the Rights of the Child was adopted, the nations in the African Union joined together to create a human rights charter to address the specific rights of the African child.\(^7\)

Many of the provisions from the Convention on the Rights of the Child were adopted into the African Charter on the Rights and Welfare of the Child (African Charter) but this African Charter also includes provisions that are specific to issues on the health of African children.\(^8\)

Similar to the Convention on the Rights of the Child, the Minamata Convention also ignores the African Charter by not offering the same protections to children that the African Charter does.\(^9\)

Both the Convention on the Rights of the Child and the African Charter establish the special status of the child within the international community which is not being adequately respected nor protected by the Minamata Convention.\(^10\)

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\(^1\) Minamata Convention on Mercury, *supra* note 19.

\(^2\) See generally id.

\(^3\) G.A. Res. 44/25, *supra* note 126.


\(^8\) Id.


D. The gold mining industry’s failure to adequately protect children exposed to mercury from artisanal and small scale gold mines is inconsistent with emerging international standards of Corporate Responsibility.

In addition to the Convention on the Rights of the Child, the United Nations has also asked the corporate community to implement corporate codes of conduct and principles to protect children, especially from child labor.\(^\text{201}\) In an effort to maintain corporate sustainability, the UN Global Compact\(^\text{202}\) introduced Ten Principles that responsible corporations and businesses should adhere to protect children, but also to protect many other areas of concern such as human rights, the environment, and to prevent corruption.\(^\text{203}\)

Principle Five\(^\text{204}\) sets out various guidelines for corporations to follow in order to identify and stop the use of child labor in their supply chains and spheres of influence.\(^\text{205}\) These guidelines are relevant to mercury exposure to child miners.\(^\text{206}\) It advises that corporations and companies working with supply chains that are located in different countries and even continents need to be aware of the occurrence of child labor in that particular industry.\(^\text{207}\) Some of the guidelines in Principal Five include: following minimum age provisions in individual states’ labor laws, removing children found working and helping them find other ways to help their families, and guide subcontractors, and other business partners to fight against child labor.\(^\text{208}\) Principle Five also recommends that corporations offer medical care to children that have fallen ill due to occupational diseases.\(^\text{209}\) This extends to children who have developed diseases and deformities as a result of their prolonged exposure from mercury in artisanal and small scale gold mines.\(^\text{210}\)

The United Nations Children’s Fund (UNICEF)\(^\text{211}\) has also created a set of soft law principles similar to the UN Global Compact to specifically address the issue of child labor


\(^{202}\) UN Global Compact, *Our Mission*, https://www.unglobalcompact.org/what-is-gc/mission (last visited Apr. 21, 2017). The UN Global Compact is “the world’s largest corporate sustainability initiative” which aims to use various principals to promote human and labor rights, as well as protect the environment and eliminate corruption in the private business sector. *Id.*

\(^{203}\) UN Global Compact, *The Ten Principles of the UN Global Compact*, supra note 127.

\(^{204}\) UN Global Compact, *The Ten Principles of the UN Global Compact*, https://www.unglobalcompact.org/what-is-gc/mission/principles (last visited Jan. 13, 2017). Principals One and Two deal with how businesses should deal with human rights, while Principals Three, Four, Five and Six deal with forced labor, child labor, and employment discrimination. Principals Seven, Eight, and Nine discuss how businesses should handle challenges regarding the environment, while Principal Ten discusses anti-corruption. *Id.*


\(^{206}\) *Id.*

\(^{207}\) *Id.*

\(^{208}\) *Id.*

\(^{209}\) *Id.*

\(^{210}\) See *id.*

\(^{211}\) *About UNICEF*, UNICEF (Mar. 3 2016), https://www.unicef.org/about/who/index_introduction.html. UNICEF works to promote the rights of children around the world. They are children’s advocates against poverty, violence, discrimination and other challenges that children face. *Id.*
and their rights in the workplace.\(^{212}\) The main purpose of the Children’s Rights and Business Principles is to ensure that businesses are respecting and supporting children’s rights by preventing children’s rights from being violated and by promoting actions that will protect and advance children’s rights.\(^{213}\) Principle 3 of the Children’s Rights and Business Principles calls for corporations to provide adequate and good quality health care to children workers.\(^{214}\) If members of the gold industry were to adopt these principles, perhaps significant remedies could be made and child miners would not be exposed to such high levels of mercury. It is imperative that organizations like UNICEF advocate for the importance of child rights in the business sector.

Additionally, the United Nations Office of the High Commissioner on Human Rights released Guiding Principles on Business and Human Rights, also for multinational corporations to be responsible to adhere to human rights laws and protect against any human rights violations occurring in their business, both adult and children rights.\(^{215}\) The first foundational principal listed is that “states must protect against human rights abuse within their territory and/or jurisdiction by third parties, including business enterprises. This requires taking appropriate steps to prevent, investigate, punish, and redress such abuse through effective policies, legislation, regulations and adjudication.”\(^{216}\) This promotes transparency in business transactions, since it is necessary for them to prevent the human rights abuse.\(^{217}\) Despite these guidelines and principals not being hard international law, their role as soft law demands compliance of their adherents and contribute to the establishment and belief that children have a special status within the international community that needs to be protected at all costs.\(^{218}\) It is not just the responsibility of the states to abolish child labor and to ensure that children that are working in hazardous conditions are protected, corporations also need to take measures to ensure that either child labor is stopped or that the children are not subject to conditions that violate their special status within international laws.\(^{219}\) In addition to having a responsibility to eradicate child labor, corporations also have the responsibility to take measures to reduce mercury exposure and ameliorate the harms that have been done to children exposed to mercury in artisanal and small scale gold mines.\(^{220}\)


\(^{216}\) *Id.*

\(^{217}\) *Id.*

\(^{218}\) *Soft Law Law and Legal Definition*, supra note 182.

\(^{219}\) See generally Respect and Support Children’s Rights, supra note 213.

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V. STATES AND THE GOLD INDUSTRY NEED TO CONFORM TO EMERGING INTERNATIONAL LEGAL PROHIBITIONS AGAINST MERCURY EXPOSURE TO CHILDREN FROM ARTISANAL AND SMALL SCALE GOLD MINING.

This section will propose two avenues which the international community should follow in order to protect children who are being exposed to mercury while working in artisanal and small scale gold mines worldwide. The first proposition is that the Minamata Convention needs to be amended and strengthened to be consistent with international hard and soft laws in place to protect the special status of the child. State parties to the Minamata Convention need to amend Article 7 and Annex C to conform to established and emerging international human rights laws protecting the health and safety of the child. Secondly, the gold industry needs to adopt corporate codes to prevent mercury exposure to children working in artisanal and small scale gold mines. Both of these propositions working together will work greatly decrease the number of children exposed to mercury in the mining process.

A. The Minamata Convention needs to be amended and strengthened to be consistent with established and emerging international laws protecting the child.

This Note has established that the Minamata Convention is not adequate to protect children from the high levels of mercury exposure derived from artisanal and small scale gold mining. Parties must amend the Minamata Convention's Article 7 and Annex C in a number of ways. First, the Minamata Convention as it presently stands does not ban the use of mercury in artisanal and small scale gold mines, and ideally, Article 7 should be amended to include such a ban. A strict ban provision is unrealistic given the wide spread dependence on mercury in artisanal and small scale gold mines, and it is unlikely that parties will agree to such a drastic amendment, thus a more sensible approach must be taken. However, states should, at a minimum, adopt a partial ban prohibiting children from being exposed directly and indirectly to mercury from artisanal and small scale gold mines.

Second, if a partial ban is not adopted, then a firm time schedule for the phase out of mercury use where children will be directly and indirectly exposed should be adopted. Currently, the Minamata Convention does not include a phase out date for mercury used in artisanal and small scale gold mines as it does in other articles regarding other uses of mercury. The Minamata Convention should be amended to include a provision stating that once the Minamata Convention is put into force, parties need to immediately take actions to phase out the use of mercury by child miners in artisanal and small scale gold mines. In addition, and amendment should provide that Parties need to have phased out mercury use in at least 45 percent of their artisanal and small scale gold mines five years after the Minamata Convention enters into force.

222 Minamata Convention on Mercury, supra note 19.
224 Id.
Thirdly, Annex C of the Minamata Convention should make the adoption of the national action plans mandatory to all Parties and not just to Parties that satisfy paragraph 3 of Article 7. Furthermore, these national action plans should explicitly include the elimination of direct and indirect exposure to mercury by children miners in artisanal and small scale gold mining. Article 7 should make it clear and explicit that the definition of “children” or “child” is “a person below the age of 18” as defined and accepted by international human rights laws. Any person who fits this definition is classified as a child and would be protected under the provisions of the amended Minamata Convention. In addition, the scope of children covered by the Minamata Convention should include children at all stages of life and development, and should also be extended to protect pregnant woman and unborn children. Since mercury is so easily absorbed by the fetus through the mother, the Minamata Convention should also impose a restriction on pregnant woman handling mercury. Avoidance of mercury exposure should start in vitro since there is no logic in protecting the child after it is born but not while it is in its most critical stages of development. Article 7 needs to address the special status of the child that international hard and soft human rights law has granted to them.

Finally, Article 7 should be amended to make the notification to the Secretariat mandatory and make it apply to all artisanal and small scale gold mining activity. In Section 3 of Article 7 of the Minamata Convention, it states that parties need to notify the Secretariat if they believe that there is “more than insignificant” artisanal and small scale gold mining in their territory. “More than insignificant” is a very subjective qualifier and needs to be amended in order for parties to clearly understand the level of artisanal gold mining activities that warrants notification to the Secretariat. This limiting language should be taken out of Article 7 completely. This would remove the potential for abuse and misrepresentation in reporting to the Secretariat. In addition, in an attempt to promote transparency, all notification should be listed on the Minamata Convention’s website, including identification of parties who fail to provide such notifications.

States who join the Minamata Convention have an obligation to act regarding mercury exposure in gold mining. But, as the Minamata Convention currently stands, states receive no benefits and have no incentives to eliminate mercury usage in mining. Nothing in the Minamata Convention gives the parties any reason to adhere to the provisions. In addition to not having any incentives, the plans listed in Annex C are costly to implement, and this gives the parties even less incentive to adhere to the provisions, as can be seen in Ghana and their lack of strict enforcement of their many child labor laws. One way to

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225 Id.
226 G.A. Res. 44/25, supra note 126.
228 Minamata Convention on Mercury, supra note 19.
229 Id.
230 Id.
231 Id.
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remedy this is by providing a subsection in Article 7 that provides funding and financial aid from organizations like the UN, in order for these provisions to be implemented. This way, parties have an incentive to make an effort to implement the provisions, because they know that they will receive some assistance in funding the implementations. The lack of funding and financial assistance to supplement the provisions and laws and enforce them is one of the major hindrances many states find, especially poorer states like Ghana,233 that have these laws and would greatly benefit from the Minamata Convention covering children exposed to mercury.

These amendments to the Minamata Convention would assure for a certain needed level of transparency and legal obligation. Countries who would not be willing to join a stronger Minamata Convention would be highlighted as outliers and could be faced with shame and pressure from other state parties to change their behavior and to join the convention to eliminate mercury exposure to children. It is better to have a stronger treaty with fewer signatories because it would bring the Minamata Convention into conformity with human rights laws and would additionally help prevent countries that violate children rights and by allowing their child laborers to mercury exposure from hiding behind weak provisions and thus escape responsibility. Opponents to this would argue that the Minamata Convention has been open to signature since 2013, and after less than 4 years, only a small number of the signatory parties have actually ratified this treaty. By adding additional revisions and making it stricter to enforce and follow, it might lead to an even greater delay in getting the required 50 ratifications necessary for the treaty to go into force. However, that would leave the Minamata Convention with legal obligations not in conformity with existing and emerging hard and soft customary international law, as it is now.234 A stronger Minamata Convention is a dire necessity in order to protect children from the exposure of mercury that is endangering their health, safety, and development.

B. The gold industry needs to adopt a corporate code to protect children from mercury exposure in artisanal and small scale gold mines.

In addition to the international community adhering to a stronger, stricter Minamata Convention, the gold industry needs to also take measures to prevent mercury exposure to children in artisanal and small scale gold mining consistent with the emerging extension of international human rights law standards to corporate behavior. The gold industry needs to adopt a corporate code that promotes transparency about mercury exposure to children from artisanal and small scale gold mines, especially in the supply chain. Gold corporations need to disclose who their gold suppliers are, where they get their supplies from, and reveal the sources of gold sold and used by them. If child labor is found in a corporation’s supply chain, the corporation needs to take actions to eradicate that child labor or remove that option from its supply chain. The gold industry should make the adoption of a uniform corporate code

compulsory and any corporation that does not comply, should be held liable for human rights violations.

One other way that corporations can take actions to protect children from mercury exposure is to have corporations sponsor artisanal and small scale gold mines. Companies in the gold industry such as refiners, suppliers, and even jewelers and technology giants can sponsor an artisanal and small scale gold mine in an effort to promote health and safety of not just the children miners but also of the adult miners. They can provide guidance on how to mine gold without using mercury, fund or provide health care services for miners, and teach miners and those living in mining communities how to handle and dispose of mercury safely. These sponsorships can bring a mutual benefit to the corporations and the mines, since the mines would improve their conditions and provide better protection to children from labor and mercury exposure. International corporations, and the industry at large, would be viewed in a good light, and can gain popularity with the international community. It is in the self-interest of multinational corporations who are concerned with transparency, their images and their legitimacy to take actions to prevent child labor and mercury exposure to children.

VI. CONCLUSION

Every day, children working in artisanal and small scale gold mines are subjected to extreme hardship working in these mines. They are exposed to dangerous conditions and to mercury, one of the most toxic elements in the world. The rising demand of gold has caused an increase in the number of artisanal and small scale gold mines around the world. The children working in these mines are exposed to high levels of mercury that in turn, cause long lasting developmental and health related diseases and deformities.

In order to address the rising exposure and emissions of mercury around the world, the international community joined together to create the Minamata Convention on Mercury. This Note established the harmful effects of mercury on the health, safety, and development on children and the inadequacies of the Minamata Convention to protect the


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children from mercury exposure.\textsuperscript{240} There is a great need for the international community to strengthen the Minamata Convention in order for it to align with the established special status children have within international law. Further, the gold industry needs to enact corporate codes to protect children from mercury exposure and to eradicate child labor from their supply chains. In addition to adopting corporate codes, they should sponsor artisanal and small scale gold mines to promote child welfare and safety, and prevent the exposure of mercury to children. This is an issue of vital importance that needs to get more attention. Children are the backbone of our future and need to be protected at all cost and the current state of the Minamata Convention is not doing enough to protect this vulnerable group of society.
