



Future strategies for tackling mercury pollution in the artisanal gold mining sector: Making the Minamata Convention work



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ABSTRACT

The recently ratified Minamata Convention is an international treaty aimed at reducing the trade, use and emissions of mercury. Specific attention is paid in the document to mercury contamination that has accompanied the expansion of artisanal and small-scale gold mining (ASGM) in many developing countries. In addressing these articles, the Convention looks to initiate a new wave of policymaking and extension projects in coming years, as signatory countries work to stem emissions from the ASGM sector. If these efforts are to be effective, however, designers must first overcome the barriers and challenges posed by a legacy of failed efforts aimed at educating small-scale prospectors about the environmental and health implications of extensive mercury use and cleaner technologies. In order to do so, a reconceptualisation in approach towards mercury pollution in the sector will be necessary. There are some positive signs that academics and policymakers alike are steadily reaching a new consensus on how to tackle the issue more effectively. A strong case can be made for a 'humanistic' understanding of this persistent issue, and it is critical that such new perspectives are carried forward, not only under the Minamata Convention, but more generally.

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1. Introduction

On 19 January 2013, the fifth session of the Intergovernmental Negotiating Committee to Prepare a Global Legally Binding Instrument on Mercury (ICN5) concluded in Geneva (IISD, 2013). Following a week of discussions and all-night negotiations on the final day, a new global treaty on the trade, use and emission of mercury was produced: The Minamata Convention on Mercury (Kinver, 2013). Mercury is a toxic environmental contaminant and its management has been a major global environmental concern over the last half century. Within the Convention, specific attention is given to the intimate association of artisanal and small-scale gold mining (ASGM) with the consumption and emissions of the mercury, which is having undeniable impacts globally. Its ratification at the end of 2013 is likely to spawn a new wave of interventions aimed at confronting the widespread contamination that has accompanied a rapid expansion of ASGM in many developing countries.

The largest initiative in a long line of exercises attempting to abate mercury pollution from ASGM, the Global Mercury Project (GMP), concluded in 2008. A spate of publications and critical reflections over its mixed results has since emerged. Significantly, however, it has brought international efforts aimed at abating mercury contamination to a standstill. This hiatus, and the drafting of the Convention, presents a suitable stage at which to take stock of how effective approaches

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towards tackling mercury pollution in ASGM have been. It is also an opportune time to consider what form future interventions might take. An argument is made here for a reorientated approach towards tackling the problem, a view shaped heavily by the literature as well as the author's own experience.

2. The Minamata Convention and the artisanal gold mining sector

The Convention takes its name from the Japanese town which, along with Niigata, was the site of the first recorded mass poisoning caused by mercury. This took place from the mid-1950s until the 1960s (Counter & Buchanan, 2004; Ishikawa & Ikegaki, 1980; UNEP, 2013).¹ The events here stimulated over half a century of research into the dynamics and impacts of anthropogenic mercury use and emissions. A mounting body of incidents and research has detailed the damage caused by mercury compounds throughout the world (see Hilson & Clifford, 2010; WHO, 1991, 2003). As painfully illustrated by Minamata, the element has proven to be a severe environmental contaminant capable of causing physiological damage even in small quantities (Clifford et al., 2010, chap. 21; WHO, 2003). Accordingly, there have been considerable efforts made to control uses of mercury over the last 50 years. The fact that emissions may be widely dispersed and mercury's long environmental lifetime have been central arguments in advocating international action and agreements.

The Minamata Convention is the latest example of attempts of this nature. It admirably aims to ensure that the city has a more favourable association with mercury. The next step following the 'herculean task' of penning the document in Geneva came in October 2013, when international representatives returned to Minamata itself to sign and ratify the treaty. The intent of the Convention is to attain 'a global, legally binding treaty translated into national laws... [which] would catalyse and drive concerted international action' on mercury (UNEP, 2013, p. 5). The treaty contains 35 articles relating to various policy and technical issues on reducing use and emissions of mercury. Prominent among these is 'the international regulation of the informal sector of artisanal and small-scale gold mining' (IISD, 2013).

The ASGM sector is undoubtedly one of largest areas of concern with respect to global mercury use and emissions. The updated UNEP Mercury Assessment gives annual estimates of 727 tonnes of mercury emitted to air from ASGM operations worldwide, and 800 tonnes to land and water (UNEP, 2013). The sector accounts for 35% of anthropogenic emissions and is the largest global intentional use source of the metal. The 2010 figure is twice that given in 2005. This is partly due to the expansion of the sector and partly to access to better-quality information, especially in the case of activities in West Africa (UNEP, 2013). The Blacksmith Institute, which consistently ranks mercury pollution from ASGM in its *Top 10 Toxic Pollution Problems*, estimates² that over 4.2 million are at risk of exposure (Blacksmith Institute, 2013). The impacts of ASGM mercury emissions have been catalogued in an extensive body of studies (e.g. see reviews by Berzas Nevado et al., 2010; Eisler, 2003; Wolfe, Schwarzbach, & Sulaiman, 1998). The growing link between the ASGM sector and mercury was highlighted by a World Health Organisation representative attending the ICN5 meeting, who noted that:

A number of activities had been under way for some time to address the health and environmental impacts of mercury... and [that] the greatest gains, by a large margin, would be made by addressing emissions and artisanal and small-scale gold mining. [UNEP, 2013, p. 7]

Each signatory country to the Minamata Convention that has 'more than insignificant' ASGM activity³ is required to submit a 'national action plan' no later than three years after ratification and must review progress every three years following this. Action plans incorporate (UNEP, 2013):

- Moves to be taken towards eliminating particularly polluting mining practices.
- Formalising and regulating ASM sectors.
- Baseline estimates of mercury use and practices.
- Strategies for promoting reduction in and managing emissions and trade.
- Public health strategy which includes gathering of health information, awareness-raising.
- Strategies for providing information to artisanal and small-scale gold miners.

How large an impact the Minamata Convention may play in relation to mercury use in ASGM in terms of policymaking and capacity-building in target countries or 'on the ground' intervention and assistance work in artisanal mining communities around the globe is yet unclear (McClanahan, 2013). Certainly, even a cursory examination of the ICN proceedings gives cause for some concern. For instance, there was wrangling over definitions and, crucially, funding sources. The three years that countries housing significant ASGM activity have been given to draft a national action plan, let alone implement it, also mean that some of the potential impacts of the project will not be apparent for some years.

Moreover, the types of policymaking and action stipulated via the Convention have already been attempted in the vast majority of signatory countries that have sizeable ASGM activity. The idea behind creating an internationally agreed upon,

¹ In excess of 53,000 individuals were affected and at least 1700 people died (UNEP, 2013) through the consumption of mercury-contaminated fish and shellfish (Ishikawa & Ikegaki, 1980; Japanese Ministry of the Environment, 2013) which it was later revealed had been caused by the release of industrial wastewater rich in the metal from a nearby chemical plant. The symptoms of those affected (cognitive, neurological and motorological disorders of varied forms and levels of severity), characteristic of mercury exposure in general, are now also generically known after the city: Minamata disease.

² This is an extremely conservative guess given it only bases this on 200 sites worldwide: there are many more.

³ The conference was attended by every country with sizeable ASM populations, with the notable exception of Ghana.

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