



Kalimantan, Indonesia

Pollutant: Primarily mercury, cadmium

Population Affected: 225,000+

Kalimantan is the Indonesian portion of the island of Borneo and is composed of five provinces. In two of those provinces, Central and South, Artisanal Small-scale Gold Mining (ASGM) forms the primary source of income for 43,000 people.¹ The vast majority of ASGM miners globally utilize mercury in the gold extraction process. The mercury forms an amalgam with gold concentrate and is burned off in rudimentary smelting. The United Nations Industrial Development Organization (UNIDO) estimates that more than 1,000 tons of mercury are released into the environment each year through this process, which constitutes about 30 percent of the anthropogenic mercury emissions.²

Mercury vapors can travel long distances in the atmosphere, and partly for this reason, have attracted considerable international attention. Importantly, however, the most acute health risks posed by ASGM sites are more local in nature. Many miners smelt within the home, releasing dangerous amounts of mercury vapor that are trapped inside. Additionally, mercury released during the amalgamation process (before smelting) is easily released into area waterways where it can accumulate in fish and water. One article published in the *Journal of Water and Environment Technology* in 2008 found a concentration of mercury in the Kahayan River of Central Kalimantan that was 2,260 ng/L. This is more than twice Indonesia's standard for total mercury in drinking water (1,000 ng/L).³

The Indonesian government is making progress on this issue. As a signatory to the recently adopted Minamata Convention on Mercury (10 October 2013), Indonesia has taken an important step with the international community to limit anthropogenic releases of mercury. Additionally, the Ministry of Environment has long supported the work of NGOs like Blacksmith Institute and Yayasan

¹ The Borneo Research Bulletin: Artisanal Gold Mining, Mercury and Sediment in Central Kalimantan, Indonesia; January 2012. Available at: <http://www.highbeam.com/doc/1G1-336176554.html>

² Blacksmith Institute, 2010. Artisanal Gold Mining – Central Kalimantan. Available at: <http://www.blacksmithinstitute.org/projects/display/165>

³ Elvince, Rosana, Takanobu Inoue, Kouji Tsushima, Ryouyusuke Takayanagi, Ardianor, Untung Darung, Sulmin Gumiri, Salampak Dohong, Osamu Nagafuchi, Tomonori Kawakami, and Toshiro Yamada. "Assessment of Mercury Contamination in the Kahayan River, Central Kalimantan, Indonesia." *Journal of Water and Environment Technology* 6.2 (2008): 103-12.



Tambahak Sinta (YTS) to work with miners in a collaborative fashion to mitigate their releases and exposure.