

Appendix E: Additional Copper Mine Case Studies

Marcopper, Marinduque, Philippines

The Marcopper Mining Corporation operated a highly profitable copper mine. During this period, approximately 200 million tons of mine tailings were piped and dumped into the Calancan Bay (16 years).¹⁶⁷ In 1996, a break in the tailings drainage tunnel flushed 1.6 million cubic meters of acidic tailings containing arsenic into a 27km length of the Makulapnit-Boac River. Dozens of villages were submerged beneath hazardous tailings sludge. The tailings spill isolated roughly 20,000 people, requiring the Philippine Government to declare a national disaster and airlift food, water, and medicine into the area.¹⁶⁸ Lands along the river remain uninhabitable and because the coral reefs were smothered, coastal fisheries collapsed.¹⁶⁹

La Oroya, Peru

The capital of Peru's Yauli Province, La Oroya, has produced an average of 70,000 metric tons of copper annually since 1922. In 1999, testing showed local villagers' blood contained roughly 85 times the World Health Organization maximum limit for arsenic, 41 times for cadmium, and 13 times the limit for lead. After a decade of remediation, the firm that owns the mine, the Doe Run, claims to have substantially reduced levels of harmful pollution, yet there is no independent certification of the remediation performance.¹⁷⁰

Kabwe, Zambia

Kabwe, once at the core of Zambia's copper production, has been labeled "Africa's most polluted city."¹⁷¹ Deemed too uneconomic to continue commercial production, the mine was closed in 1994. However, villagers began their own illegal artisanal mining without safety precautions and utilizing rudimentary tools. Destitute villagers dig for minerals under the most primitive of conditions.¹⁷² An average child in Kabwe has roughly 200 ug/dl of lead in their blood; the U.S. Centers for Disease Control and Prevention considers any concentration above 5 ug/dl to be extremely serious.¹⁷³

Grupo Mexico–Buenavista Mine and the Sonora River

Grupo Mexico operates the Buenavista copper mine near the Sonora River, Mexico. On August 7, 2014, Grupo Mexico SAB disclosed that thousands of gallons of sulphuric acid had leached into the Bacanuchi tributary to the Sonora River, severely impacting a 40-mile reach of the river and contaminating the drinking water of 20,000 people.¹⁷⁴ Grupo Mexico had underestimated the extent of multiple spills. The Sonoran State Environmental Protection Agency subsequently ordered the company to establish a \$150 million trust fund before closing the mine. The heaviest rainy season in 40 years, coupled with Hurricane Odile, flushed highly acidic material into the river, which overflowed into surrounding farmland. The government declared all land within 1,600 feet of the riverbanks as contaminated.¹⁷⁵ It is estimated that 90% of agricultural production in the area has ceased in a province where agriculture constitutes 20% of all economic activity.¹⁷⁶