



# RED MINING AND THE RIGHT TO WATER IN PORGERA, WATER PAPUA NEW GUINEA

*People say it is a world-class mine, but the environment tells a different story.*


- Resident of Yarik Village, Pongera,  
January 5, 2015

An interdisciplinary study of the human right to water in the villages near the Pongera Joint Venture (PJV) gold mine in Papua New Guinea (PNG) finds that local residents do not have consistent access to sufficient, acceptable, and safe water, or adequate information about their water resources. It concludes that the PNG government and the mining companies Barrick Gold and Zijin Mining, as well as their jointly controlled operator of the mine, Barrick (Niugini) Limited (BNL), can do more to meet their human rights obligations and responsibilities.

**Background:** The PJV gold mine has been one of the world's highest-producing gold mines over the course of its more than 25-year history, but its operations have left environmental impacts affecting local communities. The mine discharges tailings waste directly into the river system, effectively converting water sources relied upon by thousands of people into a "mixing zone" of contaminated water. Runoff from the solid waste dumps and open pit, and discharge from the underground mines, may also contribute to the contamination of the major rivers in the area. The PNG government has not built basic infrastructure for supplying households in the area with running, potable water. Residents of Pongera have often expressed fear and doubt about the availability and quality of water sources, and fear that the water they drink, and with which they bathe, cook, and wash, is a vector of harmful "chemical" emissions from the mine.

**The Study:** This report is the product of a four-year interdisciplinary and mixed-methods investigation assessing the realization of the human right to water and interrelated rights in the residential areas adjacent to the PJV gold mine. It was carried out by experts in land use, hydrology, geochemistry, environmental conflict, and human rights, following multiple site visits, water and soil sampling and analysis, household and focus group interviews, interviews with civil society leaders and government officials, and review of company and government documents.





**KEY FACTUAL FINDINGS:** *Residents of Porgera do not have consistent access to sufficient, acceptable, and safe water, and do not have access to adequate information about their water resources.*

**1. Water infrastructure in Porgera is poor, and collected rainwater is too frequently inadequate to meet household needs.** Rainwater is the primary source for drinking water at the household level. The Research Team found no evidence of heavy metals above international guidelines in tested rainwater. Nonetheless, the quantity of collected rainwater is too often insufficient to meet household needs. Especially during dry periods, families must ration water, go without, or spend many hours searching for alternative sources, some of which can be difficult to access or of poor quality. The mine's recent introduction of large covered "Tuffa tanks" in an increasing number of villages represents an improvement to the commonly-used lidless plastic barrels, but is also presently inadequate to guarantee basic water needs for all village residents. Residents stated that they had not received deliveries of water, even during prolonged dry periods.

**2. Tailings waste, rivers, and certain creeks near the mine present serious quality and safety concerns, highlighting the need for additional study.** Water samples collected by the Research Team and separately by the mine reveal high concentrations of heavy metals such as cadmium, lead, nickel, arsenic, and zinc, often exceeding international and/or national drinking water standards, in three major rivers running through the mining area, as well as in five creeks and the "Red River" of tailings waste, thus confirming communities' deep concerns about river, creek, and tailings waste quality. Most residents do not rely on these sources for drinking water, but many people spend hours wading in the rivers or tailings waste each day while panning for gold or while washing their bodies and clothes in the rivers and creeks. Children frequently play and swim in the tailings waste and rivers, and many parents fear they ingest polluted water. Some residents report occasionally drinking from rivers and creeks in periods of extreme drought. Human health impacts of the water have yet to be adequately studied by the mining companies or the PNG government.

**3. Alternative sources of water believed to be of acceptable quality can be too distant, costly, or risky to access for many residents.** Springs are not equally available to all residents living in and around the mine, and some springs produce less or dry up during prolonged periods without rain. Long-term residents state that several of their traditional water sources have been covered by waste dumps, requiring residents to venture further away from their homes to obtain water. These journeys can present physical security risks, and present additional burdens on some members of the population, including women, children, older persons, and persons with disabilities.

**4. There is a lack of reliable information about water quality in Porgera by which residents can assess risks and make informed decisions about their water use.** Beyond the limited testing to verify the mine's compliance with its environmental permit, the PNG government does not conduct broader water, environmental, and health studies in the villages near the mine nor educate residents about water quality. While the mine has made progress in publishing its environmental monitoring online, it does not regularly test all the sources of water that residents of Porgera interact with, nor does it adequately test for related human health impacts or take sufficient steps to make the information adequately accessible and understandable to residents of Porgera. Neither the mine nor the PNG government engages in sufficient face-to-face communication tailored to individual needs—such as those of children, women, and girls of reproductive age. Lack of information contributes to residents living in uncertainty and fear, unsure how to best mitigate risks, discounting safe sources of water due to negative perceptions, and it undermines their ability to meaningfully participate in important decisions impacting their right to water.



## KEY LEGAL FINDINGS:

1. **The human right to water is unfulfilled in Porgera.**

2. **The PNG government has not met its obligations to respect, protect, and fulfill the right to water in Porgera.** The PNG government has failed to respect the right to water of the people in Porgera in approving the plans for the mine despite its foreseeable impacts on access to clean water. The government's failure to introduce a regulatory framework that sufficiently monitors and protects water resources from contamination and exploitation, coupled with its failure to provide affected communities with the information necessary to understand and mitigate risk of harm, constitutes a failure to protect the right to water from interference from third parties, and also risks undermining the right to health. The additional failure of the PNG government to meet its core obligations—including to ensure access to “the minimum essential amount of water, that is sufficient and safe for personal and domestic uses to prevent disease,” non-discrimination, and that people's personal security is not threatened when they access water—represents a *prima facie* violation of its obligation to fulfill the right to water.

3. **Barrick Gold, Zijin Mining, and BNL are in breach of their responsibilities to respect the right to water and could do substantially more to support the realization of the right to water.** The mine has not made adequate efforts to address community water needs exacerbated by the mine's environmental impact, particularly during dry periods. The companies do not have an operational-level human right to water policy for the Porgera mine. The mine discharges contaminants into water sources relied upon by local communities, has covered numerous local creeks and springs, and has failed to adequately monitor and share with communities the environmental and human health risks of such practices so that communities might adopt appropriate mitigation measures. These activities have contributed to adverse impacts on water availability, accessibility, acceptability, and quality, and the PJV's positive responsive steps have not sufficiently mitigated the mine's negative impacts on water resources, nor kept residents adequately informed and involved. Beyond their responsibility to respect the right to water, the companies could do substantially more to support greater advancement of the right to water in Porgera.

### ***Recommendations to advance the human right to water:***

- ***Emergency Water Supply.*** The PNG government and the mining companies should provide emergency access to safe water meeting minimal basic needs during periods of low rainfall, and promote consistent access to adequate amounts of water for households in Porgera affected by the mine.
- ***Improved Water Infrastructure.*** The PNG government and the mining companies should work together to progressively improve water infrastructure in Porgera.
- ***Human Right to Water Policy for the PJV mine.*** The mining companies should immediately pledge to create a Human Right to Water Policy for the PJV mine through a rights-based, multi-stakeholder process.
- ***Environmental and Social Audit.*** The PNG government should immediately pledge to carry out an Independent Environmental and Social Audit of the PJV mine examining all social, environmental, and health effects of the mine, and the mining companies should offer their full support.
- ***Law Reform.*** The PNG government should adopt regulatory reforms to prevent or mitigate environmental harms that threaten water resources.
- ***Resettlement.*** If core human rights requirements cannot be met, the PNG government and the mining companies should work together to resettle residents of Porgera away from the mine in a manner that meets strict international human rights standards.