

# IM4DC

# Action Research Report

## SUMMARY

**Researchers:**

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**School/ Centre:**

Centre for Water in the Minerals Industry

**University/ Institutions:**

Sustainable Minerals Institute, The University of Queensland

**Key themes:**

Governance and Regulation  
Community and Environmental Sustainability  
Operational Effectiveness

**Key countries:**

Mozambique, Zambia, Ghana, Peru, Mongolia, Philippines, Papua New Guinea, Indonesia

**Completion:**

August 2012

**Research aims:**

Water issues and particularly competition for water has meant that effective water management is integral for mines, both for operations and sustainability.

The objectives of this work were to:

- Provide a structured analysis of water issues related to mining faced by governments and companies in developing countries
- Understand the factors controlling the issues
- Outline strategies and tools used to address the issues
- Synthesise the operational and institutional barriers to addressing the issues

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## Water Issues Associated with Mining in Developing Countries

This project sought to identify and analyse the main mining-related water issues currently experienced in developing countries, identify priorities for capacity building, and outline solutions and possible barriers to solving the issues.

Eight countries were studied: Mozambique, Zambia, Ghana, Peru, Mongolia, Philippines, Papua New Guinea (PNG) and Indonesia. A range of literature was examined to ensure the perspectives of scientists and academics, mining companies and the community were all included. The report drew on journal abstracts, sustainability reports and websites to obtain a broad overview of the water related issues that have arisen due to mining in developing countries.

It was found that the dominant and highest priority issues identified by all sectors were those involving the community and the environment. Because of past abuses, community concerns were that mining activities would damage the environment, with flow-on effects on livelihoods and health. Communities reported that they were not getting the information they needed to understand the impacts of mine water-related issues. Although there is unbiased information available in the form of the scientific literature, it is not in a format that is accessible to them. Some of the solutions suggested were: that academia and government do more to provide understandable, unbiased information to the community; that mining companies could involve the community in their environmental monitoring; and that governments require greater resources for enforcement and implementation of regulations.

Artisanal scale mining was identified as a medium level issue, due to its impact upon the environment and the miners' own health. The issue was not brought up by the community itself, but by the scientific literature and company reports. Solutions are already in existence: the governments must enforce regulations and close down illegal mines. In at least one example, a mine provided artisanal scale miners with access to its land after the miners underwent training.

Of importance mainly to the companies, was water access for future developments, which was assigned a medium level of priority. It is the respective government's responsibility to ensure that there is sufficient water for all users and it is suggested that governments adopt integrated water resource management principles.

Standardised water reporting was assigned a low priority. It had previously been brought up as an issue in an International Council on Mining and Metals study that looked mainly at developed countries; but for developing countries, there are other more pressing issues.

The findings have been used to drive further research, which has already been utilised in the preparation of workshop materials for government advisors.