Managing Water Risks for Mining

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"I don’t care if you are in a B.C. rainforest or in the Atacama, water is the number one issue that miners face".  Benjamin Cox

Types of Risks

• Operations
• Financial
• Reputation
• Social license
• Environment impacts

(Boston Common, 2013)
Local Water Risk for Mining

- Potential for short and long-term contamination
- Water supply vs. increased stress on available resources
- Social license
- Rising water management costs
Regional Water Risks for Mining: The New Paradigm

- Water is a shared asset
- Water is expensive to manage
- Water is a growing source of conflict
- Citizens have the tools to take action
- Mining isn’t the only activity that impacts local water resources
- Pressure for greater disclosure
- Short term data collection period extrapolated to decades of mine operation
- Climate change

Tia Maria, Peru
(Economist/AP)
Precipitation is not the same as long-term water availability

64% of mining/quarry companies have water risk exposure. *(CDP, 2014)*

Water related cases made up 58% of cases lodged with the IFC compliance office *(ICMM-IFC,2018)*

Mine Level Water Risk

Mine Operation Factors
• Cultural dissonance
• Short-term goals vs. long-term plans
• Deferred investment in closure
• National regulations vs BPs
• Internal water governance

Community Factors
• Unrealistic community/govt expectations
• Lack of community involvement
• Lack of social license/trust

Source: Govt. of Australia, LPSDPMI, 2016. Water Stewardship
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(ICMM-IFC, 2018)
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Voluntary Code of Practice

1. Act transparently and with accountability
2. Comply with national law and international standards
3. Engage proactively and inclusively
4. Effective water resource management and conservation
5. Create positive impacts
6. Support local water infrastructure and services

“If You’re Not at the Table, You’re on the Menu”
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- Public water use and quality reports
- Site visits
- Community grievance mechanism

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(NSW Mining, 2018)
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- Comply with national laws, catchment governance and BPs
- Support govt efforts to develop regulatory framework
- Incorporate industry BPs for mine water management
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- Develop participatory monitoring programs
- Community discussions and information sharing
- Support public education and awareness
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- Water monitoring program
- Water efficiency and conservation
- Identify, manage and monitor biodiversity assets
- Water balance

Image: WaterSmart project
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- Support water access for impacted local communities
- Community well protection/management
- Access to water by livestock in times of stress
## Managing Water Risks: South Gobi Case Study


- Improved water infrastructure
- Engage local community on water management
- Support community projects for water supply

Image: Waterlines.org
Minimizing Mining Water Risks - Summary

- Good science and adequate characterization
- Engage stakeholders in an open and transparent manner
- Understand the social, cultural, economic and environmental value of water
- Effective water resource management and governance
- Plan ahead
- Stewardship