



Water Security for Mines and Communities: Oxymoron or Opportunity

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Mining, People and the Environment

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WATER IS A SOCIAL ISSUE

- Population Growth + Economic Development +/- Global Climate Change = Competition for Water (Tension & Potential for Conflict)
- OECD expects water related conflicts to increase
- Frequency of mining water related conflicts has been rising for some time
- Water security is the issue



KEY STATEMENTS

- Nowhere is the debate around economic progress and environmental quality more apparent than the debate around mining and water. *Younger, Banwart & Hedin*
- Water is the most important vector, and most common receiver, of the impact of mining. *Paul Younger, Newcastle University*



WHY IS THERE CONFLICT

- Mining needs huge amounts of water
- Long term impacts on water
- Water's uneven distribution
- Water's flow characteristics
- Material and symbolic (cultural) characteristics of water
- Different views on how water should be regarded
- Management/governance structures - inconsistencies



DIFFERENT VISIONS OF WATER

- As a resource – or commodity
 - short/medium term – assumes availability
- As a necessity – or human right
 - short/medium/long term – requires sustainability
- Two perspectives of a ‘social and cultural good’ – two approaches to governance



TRADITIONAL APPROACH

- Water is taken by users or allocated by an ‘authority’ on a basis established by some form of ‘agreed’ regulation.
- Favored by governments, based on a vision of water as a resource which can be divided and granted as a ‘use-right’ to groups, individuals or commercial entities – water is ‘managed’.
- Such ‘rights’ can have a value and may be bought and sold – leading to water being traded as a commodity.



WATER AS A HUMAN RIGHT

- Right to ***have access to drinking water to meet basic needs*** - UN Water Conference 1977
- Right to ***clean water*** – Rights of the Child 1989
- Priority given to satisfaction of basic needs and the safeguarding of ecosystems. Beyond these requirements, however, water users should be charged accordingly. – Agenda 21, Rio Summit 1992
- Employ full range of policy instruments, including regulation, monitoring and const recovery of water services without cost recovery becoming a barrier to access to safe water... Johannesburg Summit, 2002
- Right to ***sufficient, affordable, physically accessible, safe and acceptable water for personal and domestic use*** – General Comment 15, 2002
- ‘Soft’ law, applicable to governments.

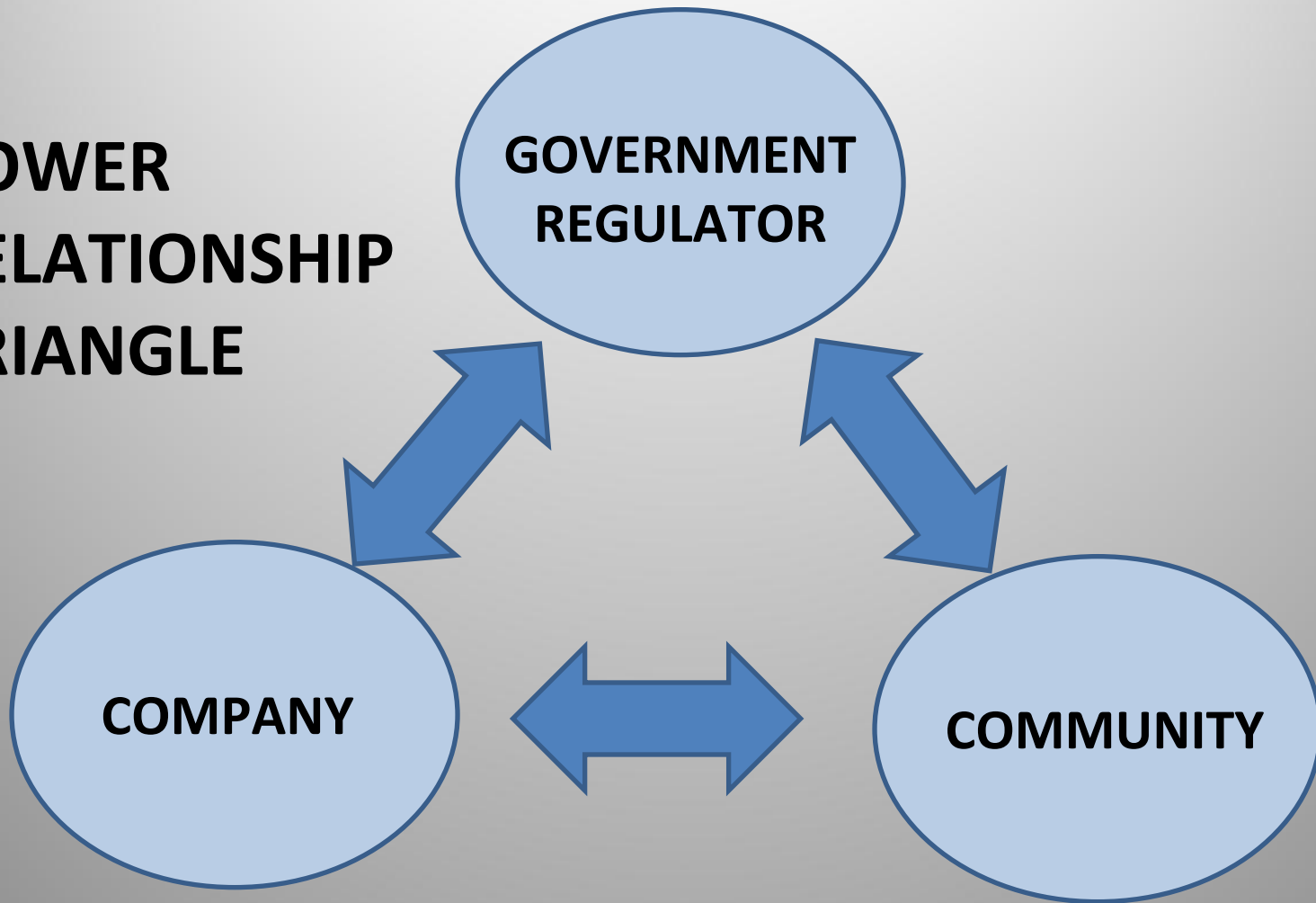


BUT!

- Governments face political compromise between short term economic development and long term water security of communities – tend to favor the former
- As price takers, companies tend to look for the lowest cost solution to satisfy their interests
- Governments and regulators do not always have capacity or trust of communities to protect their interest
- There may not be enough water to meet the allocations granted by the regulator
- Communities want to be free of threats to water security



**POWER
RELATIONSHIP
TRIANGLE**



COMMUNITY APPROACH

- Assert and defend their 'Rights'
 - Push back against the company
 - Legal Action – if possible
 - Confrontation
- Negotiation – if possible



INDUSTRY APPROACH

- Defend Rights
 - Legal action
- Apply good practices
 - Technical aspects
 - Social aspects



TECHNICAL SOLUTIONS:

Process water

- Water Trading – if possible
- Reduce – difficult, but happening
- Recycle – common approach, but still need ‘top-up’ water
- Avoid – use some other source
 - Non-potable - saline waters
 - Desalination
- Innovate
 - Waste water, etc



TECHNICAL SOLUTIONS

Post- mining

- AMD, NMD – metal pollution from waste rock and tailings
 - Dry tailings
 - Sealed tailing and waste dumps
 - Backfill – underground storage
 - Sub-aqueous storage
 - Perpetual care



SOCIAL SOLUTIONS

- Protect, respect, remedy - (Ruggie 'recipe')
- Prioritize community water security - guarantees
- Transparency
- Community Participation
- Co-management



CONCLUSIONS

- Water is a social issue and a Human Rights issue
- Industry seems to be doing well on the technical side but is still coming to grips with its social responsibility
- Industry should take the Ruggie, 'Rights Based Approach' of Protect, Respect and Remedy
- Water for people should be secured and guaranteed first, then the mine water supply
- There is more opportunity than oxymoron, BUT
- Perpetual care as a post-mining scenario is no longer a socially acceptable option



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Social Aspects of Resource Development

