Water-related regulatory and social risks in the mining sector
Legal review of 12 jurisdictions
Semi-structured interviews with 10 mining company representatives
Legal Review : Water Allocation

- Basis
- Community
- Length
- Changes
- Markets
- Processing times
- Tariffs
Legal Review: Water Discharge & Enforcement

- Permits
- Post-mining
- Enforcement
- Reporting
Risk Perception by Company Representatives

- Not related to legal framework

- Predictability is key =
  - Timeliness of being processed
  - Probability of being granted
  - Likelihood of contestation
Enforcement rather than strength of the regulation is a bigger driving factor for risk.

**Allocation mechanisms**
- Closely linked to the relevant countries’ legal tradition

**Administration responsibility**
- Depending on the level of decentralization

**Legacy pollution problems**
- More stringent discharge and post-closure requirement

**Water scarce jurisdictions**
- More stringent water allocation regimes & markets to trade water rights
Water-related social conflicts in the mining sector: Hypothesis

Other factors driving social conflicts

Physical impacts (water competition/pollution)

Social opposition/conflict

Regulatory changes
Peru was chosen as a case study given the availability of social conflict data ranging from 2007-2016.

20 variables were compiled to test the factors driving mining conflicts that were characterized as being water-related in the database.

- Water related indicators included rainfall data (as a proxy for water access) and fines from the Government for non-compliance (as a proxy for water pollution)

Regulatory changes to the water legislation were recorded during the time period.

A Generalized Linear Model and Hierarchical Bayesian Regression Model were built to run national and regional assessments.
Peru Case Study: Results

Other factors driving social conflicts:
- Past conflicts
- Mining investment
- Redistribution of revenues
- Corruption perception

Violent and non-violent water-related social conflicts

Rainfall data (proxy for drought)
- Government fines (proxy for pollution)

Physical impacts (water competition/pollution)
- Water-related legal changes (not sufficient data points to test this relationship)

Social opposition/conflict

Regulatory changes

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Findings and Recommendations

- Up-front consultations and involvement of affected communities to be improved in company strategies and regulations.

- Industry rather than company or project specific problem and as such needs industry wide solutions.

- Need to partner redistribution with inclusive decision making processes, local capacity building, transparency and oversight to ensure the funds are spent efficiently.
Findings and Recommendations

Drought is a concern and source of conflict

• Shared-water infrastructure solutions whereby mining-related infrastructure development is leveraged to benefit broader needs can be a model to address this risk.

Water quality degradation does not emerge as a factor

• However, data source for this indicator was weak
• Opportunity for further research
Outputs

- **Legal frameworks of 12 mining jurisdictions**

- **Comparative overview published in the Resources Policy Journal**

- **“An Analysis of Peru: Is water driving mining conflicts?” study (currently in peer review and to be published shortly)**

- All data points collected and compiled for the Peru case study.