


Social Aspects of Mine Closure: A Proposal for a Multi-Party Research Consortium

Led by SMI-CSRM



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A Proposal for a Multi-Party Research Consortium, led by CSRM



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Situation

The global mining industry has great potential to contribute to sustainable development through the conversion of the earth's natural resources into various forms of human, social and physical capital. This can occur during the productive phase of operating mines. It can also occur post closure through the sustainable use of benefits derived from operations and through regeneration of mined lands and the utilisation of mine-associated infrastructure. Mine life cycle linked to capital asset transformation is not well developed. Mine closure continues to pose challenges from a sustainability perspective.

Closing a mine also presents many challenges from an impact mitigation perspective. Mine closures can have significant adverse effects on local economies, contribute to impoverishment, trigger the loss of key services, and lead to out-migration. Poorly managed closure processes exacerbate these impacts and can damage corporate reputations, where operators are held responsible for the 'social mess' that they have left behind. It is increasingly the case that stakeholders expect mining operators to proactively manage the multi-dimensional impacts of closure – just as they would manage impacts at other stages of mine life.

Mine closure experts typically focus on issues such as mined land rehabilitation, mine water management, topsoil replacement, groundcover monitoring, vegetation management, post-closure land use, and physical decommissioning. Equivalent expertise is needed for addressing the multiple **social aspects of mine closure**, such as workforce planning, housing, town normalisation, post-mining economies, issues associated with infrastructure and services for a resident population, stakeholder engagement, heritage management, and agreements with local and Indigenous communities. How mining companies approach the social aspects of mine closure, or ‘**social closure**’ as it is becoming known, will shape the way the industry is perceived, which will in turn affect the ability of companies to develop mines of the future. Going forward, the industry will need more clarity on the social criteria for mine closure.

Industry bodies such as the International Council on Mining and Metals (ICMM) and associations such as the Minerals Council Australia (MCA) and the Mining Association of Canada (MAC) have initiated dialogues on the social aspects of mine closure. By working across the stakeholder spectrum, researchers can help to understand the challenges and opportunities associated with mine closure, and contribute to the dialogue process. There is a need to develop methods for engaging communities in closure conversations, anticipating the impacts of closure in specific closure contexts, consolidating learnings on sustainable innovative practices, and capturing lessons learned. Opportunities exist to better understand the scale of the global challenge by building aggregate data sets and knowledge repositories.

Research proposition

A multi-party Research Consortium led by CSRM on the social aspects of mine closure. The Consortium will enable the development of an inter-disciplinary knowledge base to better plan for and manage the social aspects of closure and support improved policy and practice for positive local and regional development legacies, with globally transferable outcomes.

Background context

Globally mining companies find themselves approaching mine closure without clear criteria for social closure. Industry bodies are beginning to consider these issues. However, unlike environmental closure, the standards, guidelines, knowledge and tools for managing the social aspects of mine closure are at an early stage of development, while implementation is inconsistent. Companies tend not to have strong standards or internal guidelines to support business units in addressing the social aspects of closure.

In addition to the shortage of innovative case studies and policy guidelines, there are few experts available for the sector to develop this capability with. Across the industry there has been a siloing of experiences and lessons learnt. Rarely is there a co-ordinated vision amongst government agencies, mine site operators, different disciplinary experts and other key stakeholders on post-closure futures. Many stakeholders are also concerned about the prospect of sites being handed back to the public under these circumstances, and the legacies associated with abandoned mines and those that close unexpectedly. This is an issue confronting companies of all sizes, and developed and developing countries alike.

A major challenge is to establish mine closure processes and practices that ensure that the personal, household, societal and economic costs created by mining and closure are reduced and the benefits equitably shared. For land connected peoples, including Indigenous peoples, the social costs are often linked to environmental changes. Existing industry regulations – which often focus on ‘pre-state’ rehabilitation – do not address the requirements for managing society-environmental relationships in the post-closure phase. Active industry engagement with social closure challenges will ensure that opportunities for asset regeneration, re-purposing and transfer are not missed.

Proposed approach

- Develop an agreed program of applied research with Consortium members, addressing critical knowledge gaps in the planning and management of the social aspects of mine closure.
- Support industry forums by bringing new research and case studies from successful closure processes, energizing existing dialogues and discussions.
- Draw on a cross-disciplinary team incorporating expertise across The University of Queensland in anthropology, mining heritage, political science, demography, town planning and economic-geography.
- Build, apply and share knowledge across the industry and with governments and other stakeholders.
- Identify transferable good practice approaches, while recognising that each closure site is unique.

Guiding questions

- What are the barriers and thresholds to the successful management of the social aspects of mine closure?
- What does 'successful' closure look like and what are the social risks and liabilities associated with mine closure?
- How can different actors align rehabilitation regulation with local and regional economic development objectives to optimise the environmental, social and economic benefit from mining assets?
- How can government policy and regulatory settings be directed to incentivising asset regeneration and transfer?
- How do different governance models and regulatory regimes for managing the social aspects of closure compare?
- What are the most accessible / transferable case studies on the innovative management of the social aspects of mine closure?
- What does relinquishment criteria look like through the lens of 'social closure'?
- What frameworks exist for exploring risks and opportunities in social closure, and what needs to be developed?
- How can communities be better prepared for closure? What interventions could build greater resilience and adaptability?
- How can the potential/likely social impacts of mine closure be better understood and forecast?

Sites and regions of interest

In the last ten years numerous large-scale operations have closed in the Australasia region, including Misima (PNG), Reefton (NZ), and various Bowen Basin operations (Qld, Australia). Relatively little is known about the closure management process and the social legacies of these and other mines. There may be lessons to be drawn from particular case studies in other countries like South Korea, Canada, England and Germany where mines have also been closed.

A preliminary review of Australia indicates that numerous major operations are slated for closure in the next two to ten years. In northern Australia alone, Argyle, Ranger, East Weipa, Gove, Telfer, Stradbroke Island sand mine and several operations in the Pilbara are preparing for closure, while Century continues under economic rehabilitation. Several of these are iconic mines with established local communities and townships.

Other well-known international operations approaching closure include Yanacocha, Antamina, Cerro Corona and Piurina (Peru), Phu Bia and Sepon (Lao), Hidden Valley, Ok Tedi and Simberi (PNG), Waihi (NZ), Vatakoula (Fiji), Mintails and Richards Bay (South Africa) to name but a few. All of these mines are situated in complex social and economic landscapes, and social legacies such as economic dependency, impacts upon sustainable livelihoods, and demographic change, will need careful attention throughout the mine closure process to avoid negative long-term impacts.

Consortium partners would work with CSRM to identify sites and regions of interest.

Outcomes and knowledge transfer

- Build a shared knowledge base on the social aspects of mine closure that has global application and accessibility.
- Materials to support the business case for early engagement in the project cycle with the social aspects of closure.
- Identification of innovation and pathways to entrepreneurialism in the social outcomes of mine closure for affected communities and regions.
- Insights to inform future policy and practice both within Australia and globally.
- Focused training and capacity building, on effective mine closure approaches for industry partners and a broader competency framework for social closure practitioners.

Funding request

- Overall AUD 250K per annum from partner organisations for 3-5 years (2018-2022).
- Benefits of investment include: direct access to leading edge applied research and resources; opportunity for positioning at forefront of industry practice; engagement with other partner organisations.
- 2 tiers of partner contribution per annum:
 - I. 30-50k (named partner organisation, engagement on broader research priorities, early access to research outputs and project forums)
 - II. 100K+ (above + access to specialist researcher to service partner organisation priorities, PhD top-up scholarship on social aspects of closure to support next generation of social closure specialists)
- There is an opportunity to leverage partner funding through a strategic UQ matched grant that would further enable this work.
- A full budget, staffing and program plan would be developed once the quantum of available funds is known.

CSRM expertise

- The Centre for Social Responsibility in Mining (CSRM) is a leading research centre, committed to improving the social performance of the resources industry globally.
- CSRM has specific expertise in this area having: undertaken comprehensive social closure studies for Century Mine; developed methods for undertaking social impact assessments for closure; developed a tool for Rio Tinto to inform decisions about managing towns post mine closure; conducted workshops for companies on social closure planning; completed the first global scoping study on the management in/out-migration around mining projects; developed a comprehensive knowledge base on mining and resettlement; worked with Indigenous communities on the social aspects of mining.
- We are part of the Sustainable Minerals Institute (SMI) at The University of Queensland, one of Australia's premier universities, and we have access to world class researchers working on many of the issues currently facing the industry on the issue of mine closure, including direct access to the Centre for Mine Land Rehabilitation (CMLR).
- Since 2001, CSRM has contributed to industry change through research, teaching and research services.
- CSRM has an existing and successful Consortium arrangement on the aligned topic of resettlement.

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