Driving policy innovation in mine closure management, environmental risk mitigation, and rehabilitation of abandoned mine sites as a pro-development strategy

**Policy Brief**

What regulation, policy, and securities exist for managing mine closure, and minimising risks of enduring harm in South Africa, Nigeria, Mozambique, Ghana, Zambia, Kenya and Tanzania?

This research demonstrated that all jurisdictions analysed conform with international expectations for public engagement during decision-making or access to mining related information. All jurisdictions have formal regulations for mine closure planning and Environmental Impact Assessment (EIA) along with financial sureties (most usually bonds). Details vary considerably between jurisdictions, and especially with regards the level of detail that applies to artisanal and small-scale mining (ASM).

The research, however, also uncovered significant challenges with implementation in practice in several jurisdictions. There is also an argument that ‘best practice’ mine closure and financing requires simultaneous transparency in the mining sector. Such transparency ideally enables interested stakeholders to readily access and understand the environmental, social, and financial outcomes of a mining activity over the mine life. At the present time public information disclosure of mining operations clearly falls short of what might be broadly considered to be transparent to civil society in all eight jurisdictions analysed. It was characterised by selective reporting, and documentation spanning from overwhelmingly complex and abundant or particularly limited – none of which achieves transparency.

**Complexities, risks, and costs of mine closure and abandonment.**

Our research found some African jurisdictions effectively mapped, categorised, prioritised, and implemented abandoned minesite rehabilitation undertaken by governments. For example, between 2008 and 2014 some 20 minesites were reclaimed by the Nigerian Government with some being returned to beneficial uses (e.g. a water source for irrigation). However, in general, coordination between different ministries was identified as a challenge with capacity development a high priority. Beyond capacity considerations generally, limited budget allocations and lack of supervision and inspection at provincial and local level resulted in mining companies not fully implementing their environmental protection and mine closure plans. These issues limited mining law enforcement (as well as suggestions of political interference), and other agencies overruled environmental protection measures. In jurisdictions where regulation of the bond system did not occur in practice, there were difficulties in monitoring of bond payments, and various
bond requirements were administered for different projects, with a concern that bonds did not reflect likely rehabilitation costs. Having a general format or formula for estimating rehabilitation costs may be useful to bring uniformity in estimation in bond requirements.

**The Western Australian Department of Mines and Petroleum (WA DMP)**

**legislation and its potential adaptation into other jurisdictions.**

**WA Mining Rehabilitation Fund (MRF)**

Prior to 2012 in WA bonds were the mechanism of choice for dealing with environmental default risk. Two problems were identified with this traditional approach: 1) The money in individual bonds typically fell far short of the estimated rehabilitation liability, and 2) bonds could only be used for the individual mine site with no funding mechanism addressing legacy abandoned mine sites or adjacent areas not in the actual mining lease area. The MRF addresses both of these issues as any part of the principal can be used to rehabilitate a given mine-site and the interest earned is specifically set aside for legacy sites. The fund is held by the WA Government and administered by the Department of Mines and Petroleum (DMP) as a security to be used exclusively for restoration of any mine site that becomes abandoned, and interest earned on the capital is to be used for restoration of legacy abandoned mine sites (predating implementation of the MRF). To be clear, the mining proponent still remains responsible for all closure and rehabilitation works to be carried out on their site. Management of the MRF is publicly disclosed with expenditure bound by the provisions of the Financial Management Act 2006 (WA) and reporting by the office of the Auditor General.

**Comparisons to South Africa, Nigeria, Mozambique, Ghana, Zambia, Kenya and Tanzania**

Our research indicates that the functionality of a MRF approach is dependent upon the size and scale of mining operations in a given jurisdiction. On the African continent, while the mining sector in South Africa is developed to a level similar to that in WA, other African countries may not yet have reached ‘critical mass’ in this regard. However, Nigeria has established an Environmental Protection and Rehabilitation Fund over a number of years to meet the requirements of EIA. The fund is held by the Western Australian Government and administered by the Department of Mines and Petroleum (DMP) as a security to be used exclusively for restoration of any mine site that becomes abandoned, and interest earned on the capital is to be used for restoration of legacy abandoned mine sites (predating implementation of the MRF). To be clear, the mining proponent still remains responsible for all closure and rehabilitation works to be carried out on their site. Management of the MRF is publicly disclosed with expenditure bound by the provisions of the Financial Management Act 2006 (WA) and reporting by the office of the Auditor General.

**ASM complexities**

ASM is a significant and largely unregulated/informal economic activity. It is also labour-intensive and provides more employment than LSM. It is also often a precursor to large mines, and allows exploitation of deposits not amenable to LSM (including reworking of rock dumps or mined areas). It is a major positive economic driver in rural areas and underpins millions of full-time and part-time livelihoods. However, ASM is largely neglected by policymakers and is a major challenge for regulation and management agencies, in particular for mine closure planning and rehabilitation. ASM also poses considerable dangers directly to miners, indirectly to communities and also violence from organised crime. Uniquely African innovations in environmental and social ASM mechanisms will be needed to extract benefits and mitigate costs.

**Reforms and standards that attract mining investment for the benefit of miners, governments, and communities.**

EIA and mine closure planning share explicit linkages, including identifying and assessing environmental and social impacts of mining, along with putting in place appropriate mitigation, management and monitoring measures for developing the EIA for a proposed mining project. The two processes should proceed hand-in-hand. The various approaches to mine closure planning mirrors the variability of scope and mechanisms of EIA across international practice, whereby some jurisdictions and practitioners focus in large measure on the biophysical factors, while others increasingly consider socio-economic factors. The combination of mechanisms and approaches for mine closure planning immediately raises the question as to how different agencies cooperate to achieve the best outcomes post-mining. At present there is often a multi-agency or whole-of-government engagement with mine closure plan evaluation/assessment which creates uncertainty or interagency tension. For example, the situation is especially complex in South Africa where at least 15 Acts of Parliament pertain to mine closure and rehabilitation activity. Managing inter-agency cooperation in WA mostly utilises one piece of (mining) legislation for regulating post-mining performance, with EIA processes only triggered where significant environmental issues are at stake. Mine closure planning guidelines are also jointly authored by the two agencies involved (EPA and DMP) for consistency and clarity, which also fosters interagency trust, cooperation, and responsibility.

**Further reading**

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