

Mine Closure & Rehabilitation: From Dereliction to Accountability?

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Accountability and Responsible Mining

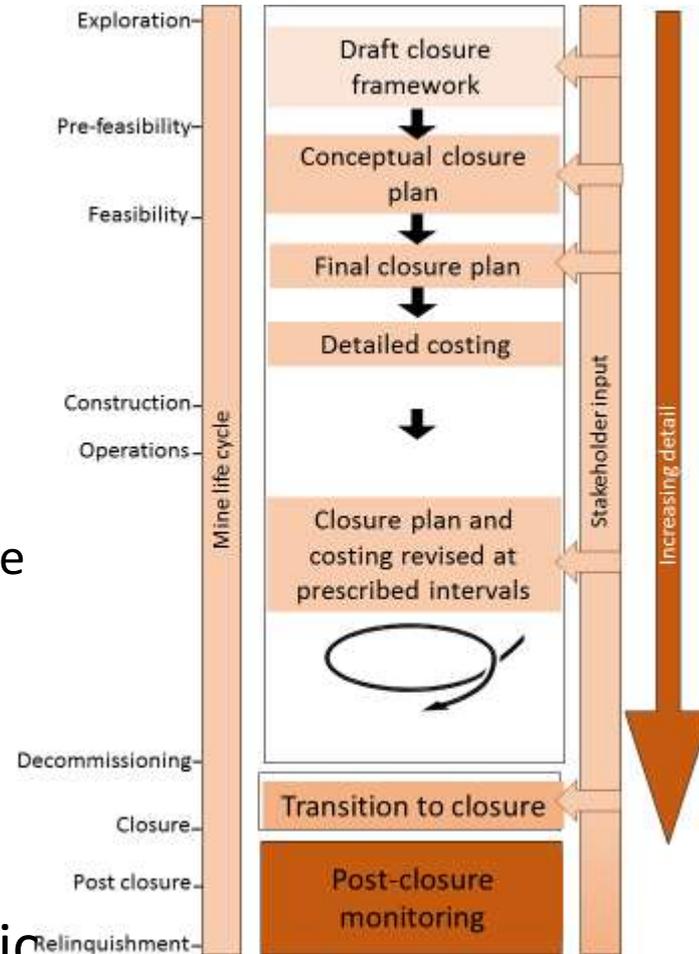
- Achieve zero harm
 - Realise net positive environmental impact
 - Improve social performance
 - Leave a positive legacy
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- What does this mean for closure and rehabilitation?

Mining Lifecycle Planning

Integrated planning with closure in mind
Lifecycle rather than *closure* planning
“Design for closure”

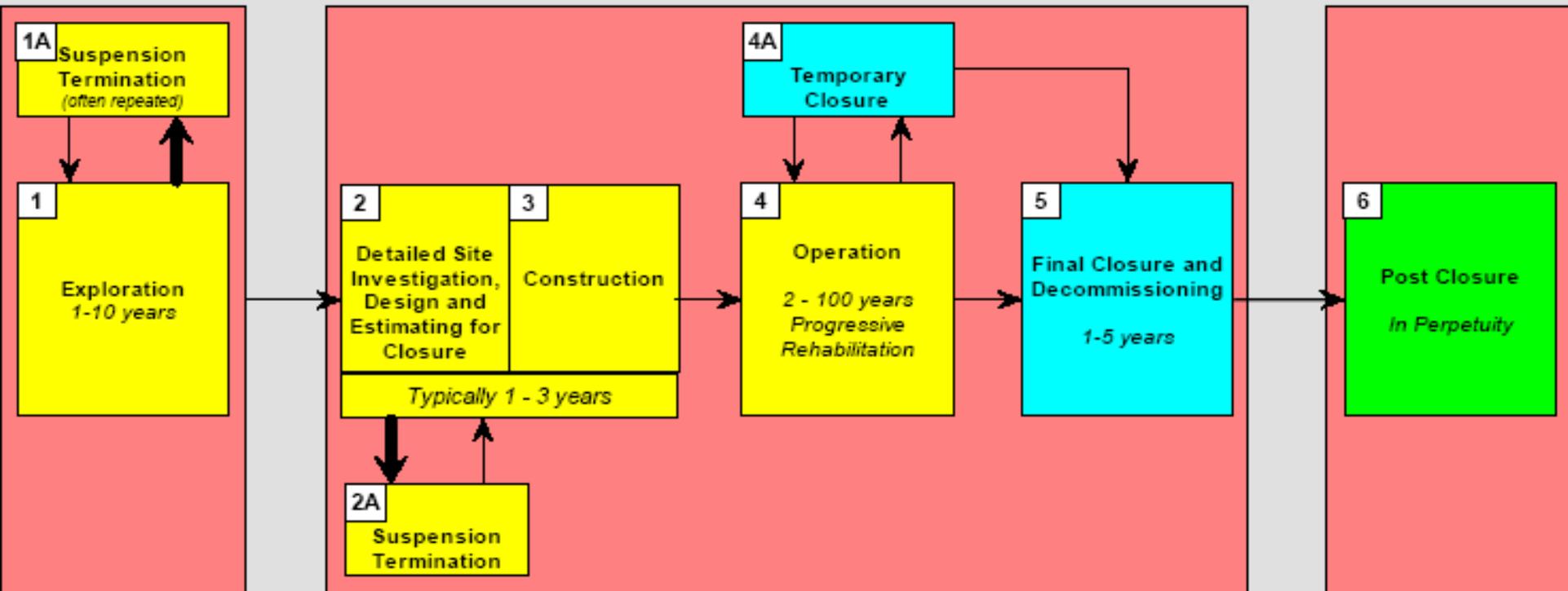
- Good environmental and social practice throughout operating life
- Concurrent rehabilitation
- Adequate financial provision
- Implementation of regularly updated closure plan
- Regular and meaningful consultation
- Collaboration

- Closing old mines is difficult
- On-selling of marginal mines problematic



Post-closure thinking is relative new

Design, Build and Operate for Post-Closure



Key

-  Mine Life Cycle 1960's
-  Mine Life Cycle 1970s +
-  Mine Life Cycle 2000

Existing guidance is inadequate – we need new models

MINE CLOSURE TOOLBOX

Version 2, 2013

ICMM
International Council
on Mining & Metals

Planning for Integrated Mine Closure: Toolkit



Guidelines for Preparing
Mine Closure Plans

June 2011

IBRAM
INSTITUTO BRASILEIRO DE MINERAÇÃO
Instituto Brasileiro de Mineração
Cidade de Minas, 6. Brasil

Mine closure legislative review

ICMM
International Council
on Mining & Metals



www.icmm.com

Mining and sustainable development

A review of public policy in 10 jurisdictions with a view to determining level of convergence and divergence in the character and content of regimes and regulatory trends

Focus Areas

- Integrated closure planning
- Environment, health & safety requirements
- Financial assurance systems
- Relinquishment & post-closure obligations
- Socio-economic requirements
- Transparency, stakeholder engagement & public participation
- Role of international standards

Mine closure is moving higher up the regulator's agenda

- *Regulations, guidelines and processes under review*
- *Economic cycle seeing more unplanned closure*
- *Growing public/civil society awareness*
- *“Shifting goal posts”*

Regulation continues to focus on environmental clean-up & rehabilitation with increasingly stringent financial provisioning & relinquishment criteria

- *Convergence around core set of closure issues including safety, decommissioning, physical & chemical stability and restoration of ecosystem functionality*
- *Cost models produce widely different estimates of total closure costs*
- *Very few examples of successfully relinquished mines sites*

Lack of regulatory structure around socio-economic aspects

- *Passing reference to integrated planning and social impacts*
- *Lack of community involvement in closure planning*
- *Closure performance will influence social licence to operate*

There are a number of emerging issues affecting direction of regulation – including climate change impacts & water security

- *Look to trends in EIA practice*
- *Role of water ministries in closure permitting likely to increase*

International standards are playing an important role in developing countries

- In weak governance zones, the IFC performance standards and the Equator Principles play an increasing role in setting the conditions for accepted good practice for mining projects, including decommissioning.*
- The establishment of a technical committee in ISO to look at a mining reclamation management standard could be an interesting development at some stage in the future.*

Outstanding issues 1

- *Measure the number of officially closed mines [More scrutiny required of successful relinquishment examples].*
- *Do increased levels of prescriptiveness lead to better closure outcomes?*
- *How do different jurisdictions align multi-agency governance of mine closure?*
- *How do we better understand uncertainty and complexity of linked socio-ecological systems & move away from assuming stable conditions over time?*
- *How do we better link mining planning & permitting with spatial development plans & frameworks developed by different parts of government?*

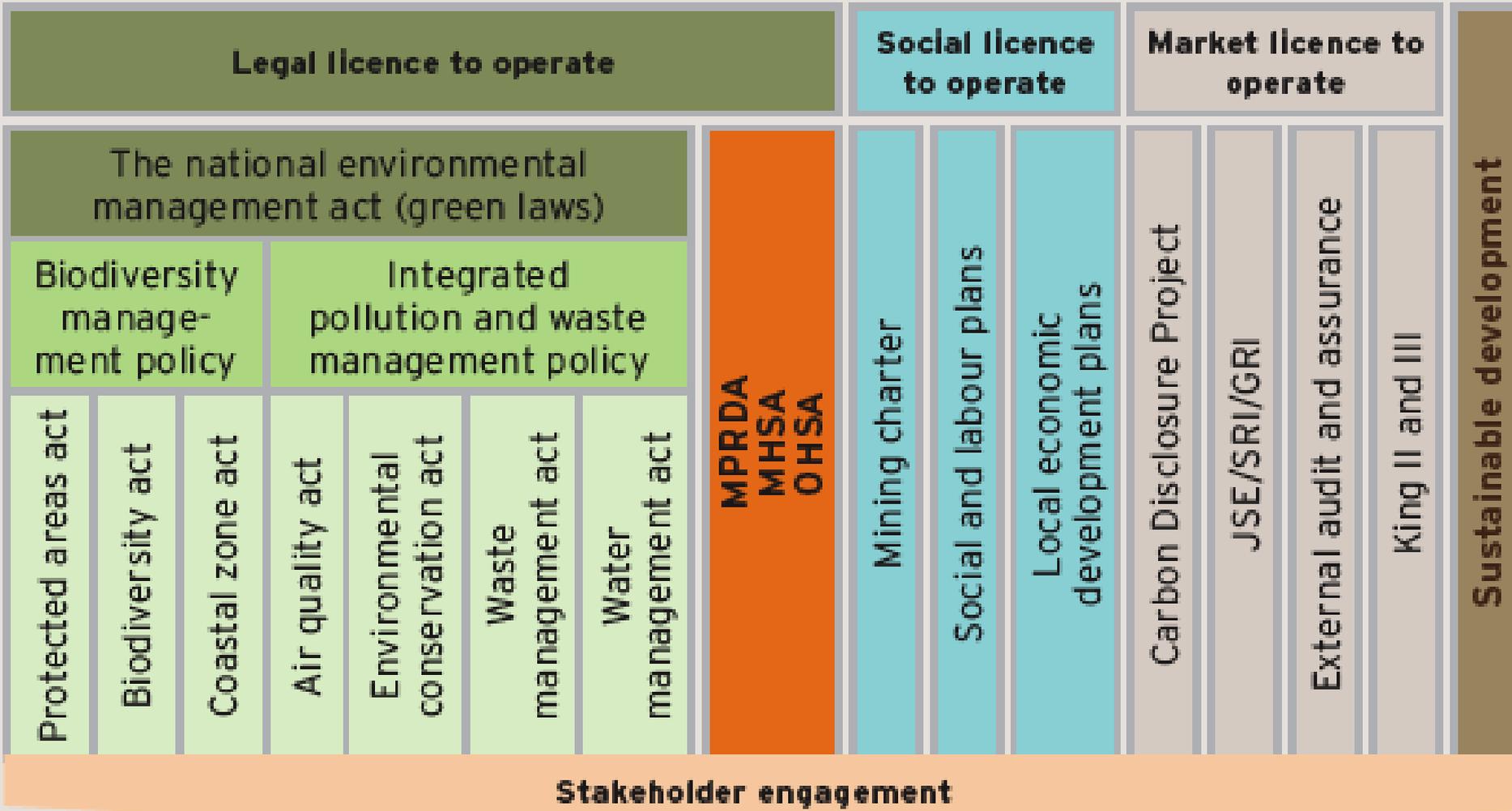
Outstanding issues 2

- As strategic impact assessments become more widely applied, how will regional closure planning be embedded in closure regulations?*
- Assessment of pooled funds to manage rehabilitation default risk.*
- Alignment of bonding requirements; e.g. water quality laws.*
- Comparing different methodologies used to estimate closure costs.*
- Different mechanisms allowing for the release of the financial assurance.*
- Forecasting for climate change and post-closure obligations.*
- Transfer of residual and latent risks upon closure.*
- Scope and duration of post-closure monitoring and maintenance.*

Outstanding issues 3

- *What processes & institutions are needed to manage downscaling, retrenchment and reskilling of mine employees?*
- *What systems are needed for employees who have contracted occupational diseases?*
- *What processes and institutions to support local economies, local governments & establishment of alternative livelihoods?*
- *What models for continued operation & maintenance of certain mining infrastructure, including provision of electricity?*
- *Increasing pressure for stakeholder engagement as the mine transitions to closure.*

Licence to operate in South Africa



All elements managed in an integrated manner

Why are we not getting it right in SA?

- Deep resistance to talking about closure and downsizing
- ‘Mines never close’ – from A to Z
- ‘Chain of custody’ - those that open mines, develop closure plans, build relationships with communities & make financial provision, seldom close the mine
- Lack of knowledge about the extent of social costs of closure
- Timeframes – building social and human capital (and sustainable businesses) takes time (often longer than life of mine)
- Challenges of managing long-term environmental issues
- Scale – current focus on individual mine and local/ mine-scale, rather than multi-mine and regional approach (incl. labour sending areas)

Regional closure planning

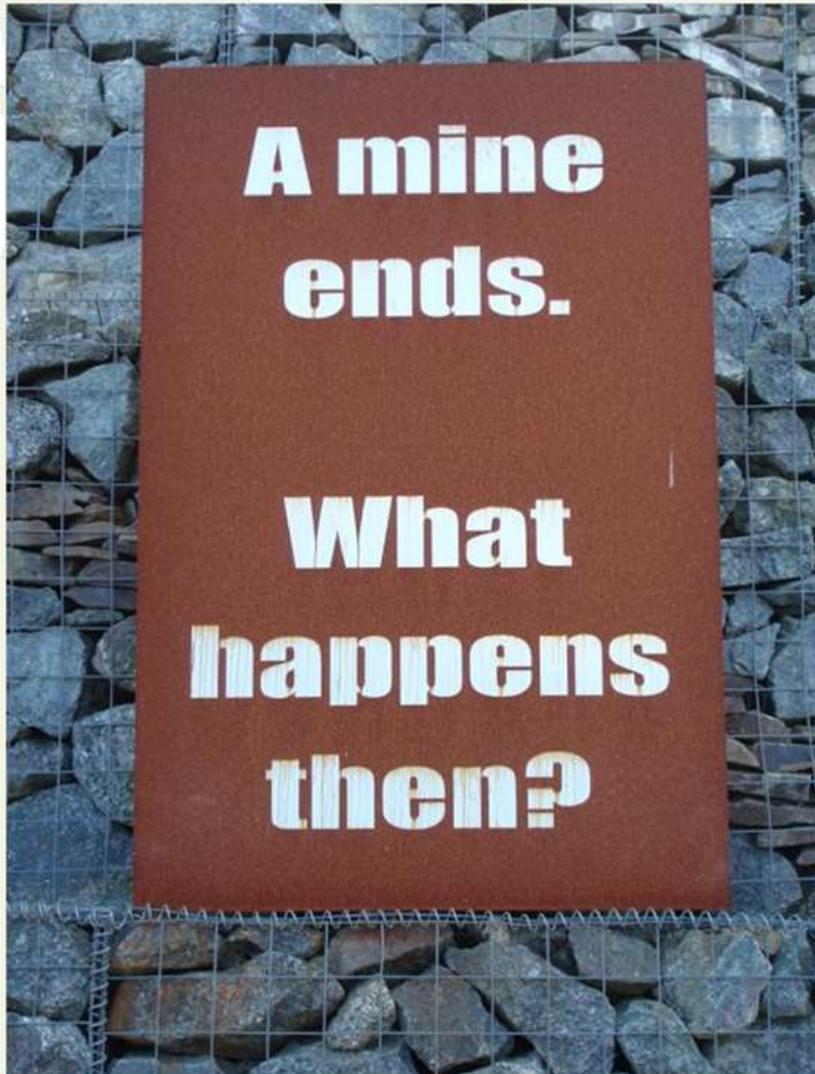
“No mine can close independently of its neighbours – there is a need to rethink the kind of tools that we use to manage impacts. If a mine closes prematurely, that mine has impacts on its neighbours; mines cannot have a stand-alone closure plan.”

Chamber of Mines Submission to HRC



Links between poor closure practice and illegal mining

- Huge legacy of poorly closed sites in South Africa
- Estimated 70,000 *zama zamas*
- Re-opening of old mine workings presents a significant environmental, safety, and security challenge
- Impact on rehab, access
- ‘Filling the gap’ between operations ceasing and legal closure?
- Require clarity regarding temporary cessation, partial closure, “warehousing” and care and maintenance



- It is time to start an explicit conversation and public debate about the future of local communities both in the mining regions and the labour sending areas.

101
THINGS TO
DO WITH A
HOLE IN THE
GROUND

Georgina Pearman

