The socio-economic aspects of mine closure and sustainable development—guideline for the socio-economic aspects of closure: Report 2

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Guideline for the socio-economic aspets of mine closure

There are four components to this guideline

1. Guidance on the socio-economic aspects of closure policy
2. Socio-economic closure activities mapped against the mining project life-cycle (a 'check status' tool)
3. A process guide for mine closure planning and implementation
4. Tools in support of mine closure planning and implementation

How to use this guideline

The four components are part of a hierarchy with:

- Overarching policy as the starting point
- The mine life cycle model as a quick process check tool
- The process guide for detailed practical planning and implementation as practical guidance
- Supportive tools as resources to address specific planning and implementation steps.

The overarching flow of the process contained in this guideline is to:

- Start by clarifying policy
- Check whether your closure status and planning are consistent with the life cycle stage of the mine. If not, develop a strategy to bring closure planning to the appropriate point
- Use the socio-economic closure process guide. The steps are arranged sequentially, but several steps will need to be reiterated over the time to ensure that closure planning and activities remain relevant as circumstances change. Customize steps as necessary
- Use the tool guide when uncertain about how to proceed with certain steps.

A word of caution, the guide is not intended as a recipe that can be followed mechanically.

Sound understanding of the context in which the mine is operating, genuine and robust stakeholder relationships, and systematic application of risk management principles are central to success. Equally, the guideline should not be read as implying that the socio-economic closure processes should be separate from environmental and financial closure processes, legislated or otherwise. Rather, the process outlined in the guideline must be fully aligned and integrated with the latter.

Guidance on socio-economic aspects of mine closure policy

There is good reason for mining houses and companies to develop closure policy. Through policy, standards which are high and uniform across all operations can be established, approaches which are inclusive, risk-based and systematic can be encouraged, and the practice of updating strategy on the basis of experience can be created.

Important policy statements, which are relevant to the socio-economic aspects of closure include:

- Commitments to:
  - Starting closure planning as early as possible, during mine feasibility and design phases
  - Achieving closure goals to the satisfaction of all key stakeholders, engaging interested and affected parties consistently and transparently, considering the local communities' requirements when, for example, designing mine infrastructure and environmental management strategies, reducing potentially negative impacts on communities, and maximizing opportunities for lasting benefits to communities
  - Integrating closure planning and activities with environment and social impact assessment and associated action plans
  - Contributing to sustainable development for lasting benefits at the appropriate level—local, regional or national.
- Requirements for:
  - Clear and specific closure goals including social goals, established through consultation with affected and interested parties, understanding baseline conditions, updating the closure plan

[1]Report 1 of 2 contains the literature survey, case studies and conclusions which support the development of this guideline

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periodically, setting milestones and planning for contingencies such as sudden closure and changes in ownership.
- Expected end points such as:
  - Securing future public health and safety, restoration and/or improvement of environmental resources available to the community, beneficial and sustainable after use of the mine site by the local community and other interested parties, and maximized socio-economic benefits such as employment, a stable local economy, and educational opportunities.

Other important policy principles concern building closure into the project life-cycle, respecting human rights, active management of risks and opportunities, and adequate resource provision to ensure that closure goals can be met.

Stakeholder roles and responsibilities

Policy formation by companies does not, however, occur in a vacuum, and is always contextual in relation to economic, social, and environmental issues and the understanding, needs, and roles of the various stakeholders. In engagement processes, all participants must follow the principles of willingness to engage, attempt to understand others perspectives, be honest, transparent and accountable, show respect, and collaborate to address the issue(s) at hand. The roles and responsibilities of the various stakeholder groups that are relevant to the socio-economic aspects of closure include:

Governments

- Authorize mining operations through defined legal processes and established norms
- Through defined legal and procedural processes, frame the closure process, provide clarity on the expected outcomes, and serve as the enabler of closure
- Set, in consultation with all stakeholders, the post-closure socio-economic and environmental vision, objectives, and milestones for all levels of spatial development
- Coordinate, monitor and report on development and closure activities
- Define tolerable levels of socio-economic and environmental risk for closure and post-closure
- Provide basic services for communities and suitable access to them.

Communities

- Provide engagement representatives with credibility and standing in the community, and the mandate to negotiate on their behalf
- Participate in decisions that affect their lives and post–closure futures
- Work at reducing reliance on mining over the life of the mine
- Contribute to framing, and ultimately own the vision of the sustainable post-mining future.

Company

- Provide engagement representatives with credibility of sufficient seniority to negotiate on behalf of the company
- Build engagement capacity of company engagement representatives
- Engage in good time, openly, and with honesty about realistic post-closure prospects and the capacity within the company to deliver
- Empower the workforce for multi-skilling and job opportunities (Commonwealth of Australia, 2006).

Criteria for sustainbale communities

Policies, from government level, through company level to individual mine policy level must contribute to the development of ultimately sustainable communities. All role players contribute in their specific ways and according to their means and responsibilities. No single stakeholder is responsible for creating sustainable communities post-closure, but all stakeholders are responsible for contributing from the earliest opportunity, to creating the following criteria on which the development of sustainable communities is based (adapted from United Kingdom, 2003):

- A flourishing local economy to provide a diversity of sustainable jobs, that is aligned with broader government planning processes; currently these would include the local economic development plans and spatial development plans
- Strong leadership within all stakeholder groups to encourage a positve response to change
- Effective engagement and participation by local people, groups, and businesses, especially in the planning, design and long-term stewardship of their community, and an active voluntary and community sector. In the context of mine closure planning, this means the early involvement of all stakeholders in the legally required processes related to the mine's development. Current examples would include the mine's social and labour plan, the initial closure plan required in the environmental management plan, through to the final closure plan as part of the formal closure process
- A safe and healthy local environment with well-designed public and green space, taking into account cultural norms and standards, leisure, and issues such as access for the disabled
- Availability of quality basic services, including access to potable water, sustainable urban drainage including stormwater design and management, sanitation, energy, and sustainable waste management
- Equitable access to and use of sustainably managed natural resources and protection of environmentally sensitive areas or areas of environmental importance, where protection is preferably integrated with the socio-economic development planning
- Optimum design and layout of structures to support access to basic amenities, transport routes, and open space, which simultaneously minimizes resource use (including land)
- Availability of, and access to public transport and other transport infrastructure both within the community and linking it to urban, rural, and regional centres

- Buildings both individually and collectively—that can meet different needs over time, and that minimize the use of resources
- A well-integrated mix of decent housing of different types and tenures to support a range of household sizes, ages, and incomes
- Good quality and access to local public services, including education and training opportunities, appropriate levels of primary health care, and community facilities; availability of, and access to ICT infrastructure, especially for leisure
- A diverse, vibrant, and creative local culture, encouraging pride in the community and cohesion within it
- A 'sense of place', created within sound urban design principles and sensitivity to cultural norms and standards, while simultaneously contributing to adequate private and public security. Sites of historic and cultural significance must always be considered in the creation of a 'sense of place'
- Appropriate links with the wider regional, national, and international community.

Socio-economic closure planning and implementation mapped against the mine project life cycle

Table I shows how socio-economic closure planning evolves over the life cycle of the mine with reference to the level of planning detail, implementation of closure, and ownership. The intention is to provide a quick gauge of whether the maturity of the planning process is in line with the mining project life cycle.

A process guide for mine closure planning and implementation

The following process assumes that closure planning begins at the mine exploration stage or at least at feasibility stage AND that the company is genuinely committed to achieving sustainable closure practices and outcomes. Indicators provided are relevant to the issues of the step or task in the process. A number of steps are iterative, and should be revisited throughout the mine life, at a frequency determined by changing circumstances, whether within the mine, or external to the mine.

Table I

Socio-economic closure planning

Stage in mine	Socio-economic planning and implementation	Resourcing and ownership of process
1. Exploration	Guided by broad socio-economic policy. Understand socio-economic context in general terms. Understand legal requirements. Comply with pertinent legal requirements. Initial low intensity engagement with local community. Have clear perspective on best practice for successful socio-economic outcomes. Ensure positive legacy, should exploration stage be project end-point.	Company resourced Company owned Community supported
2. Pre-feasibility	Conceptual socio-economic closure plan-high level engagement with key strategic community and other stakeholders. Broad outcome and closure targets defined. Aligned with, and captured in social and labour plan. The inevitability of closure made explicit to all stakeholders.	Company resourced Co-ownership of plan Community supported
3. Feasibility	Conceptual socio-economic closure plan-stakeholder profiling done. High level engagement with key strategic community and other stakeholders. Outcome and closure targets broadly defined. If appropriate, detailed planning for construction to maximize local opportunities, and minimize local impacts.	Company resourced Co-ownership of plan Community supported
4. Construction	Conceptual socio-economic closure plan concluded. Stakeholder engagement platforms clarified, strengthened and established as needed. Building stakeholder capacity to engage. Outcome and closure targets defined. Implementation of construction phase detailed plan.	Company resourced Co-ownership of plan Community supported Community involved in activities possible
5. Operations	Detailed socio-economic closure plan developed through intensive stakeholder engagement: All stakeholder interests clarified. Outcomes clarified. Shared understanding grows and matures, including of risks and opportunities. Plans updated periodically as conditions/expectations change. Specific goals, milestones, and activities established, implemented, and tracked against targets. Long-term funding and management structures developing / maturing over time.	Company resourced. Possible additional resources (partnerships) mobilized. Co-ownership, growing active stakeholder involvement, and empowerment.
6. Decommissioning	Transition to closure end-milestones prioritized. Final closure goals aligned to company and community requirements. Validated closure goals and progress toward achieving them.	Less direct dependence on company resources, funding arrangement fully functional. Company and community roles distinct and independent or close to independence
7. Closure	Socio-economic plans operational. Resource streams functional.	Community and company's responsibilities differentiated and independently resourced.
8. Post-Closure	Socio-economic targets met. Maintenance and care responsibilities of mine site transitioning.	Community continues with socio-economic activities independently.

Success is defined by achievement of the task objectives, indicator measurement and outcomes, not by whether or not the tasks have been carried out.

This guideline is designed for application irrespective of the stage in the mine life cycle at which closure planning takes place. Certain steps may be complete by the time closure planning begins, but should be revisited in light of plans to close (for example, the legal register). If closure planning starts late, planning and implementation should be accelerated to the appropriate point in the mine life-cycle, through allocation of the necessary resources. The closer to closure, when planning starts, the higher the risks and the less time is available to achieve the defined goals and objectives. More modest plans and end points, consistent with legal requirements, may be appropriate for mines with short lives. However, this may not meet the expectations of stakeholders.

The key risks in designing and implementing closure plans are emphasized in this guideline, namely

- The absence of clearly defined, agreed, and mandated closure goals
- Lack of appreciation in practice that economic diversification takes time
- Starting late, which negates adequate planning, resourcing, and implementation
- Poor appreciation of the diversity and non-homogeneity within and among stakeholders
- Poor stakeholder relationships
- Mismatch between closure goals and the capacity of stakeholders (including that of the mining company) to meet these goals
- External influences, such as market conditions
- Underestimation of the importance of social closure planning (as opposed to environmental closure planning).

Late planning in the life-cycle of a mine increases the risk of insufficient community engagement, weak and poor relationships, and lack of trust between stakeholders, severely hampering the likelihood of achieving legal and social closure.

Even though the process guide consists of sequential steps, mapped against the mine life cycle, it must be kept in mind that in practice, these steps would not in all cases be mutually exclusive. Often, steps could overlap, or be repeated at regular intervals (for instance stakeholder identification, mapping and profiling, or tracking achievement of closure goals).

Figure 1 provides an overview of socio-economic mine closure, mapped against the mine life cycle, as well as the progression of stakeholder engagement over this period. The overall process is divided and presented in five phases: origin, establishment, operational, conclusion, and an end phase. Within each phase, two lines of action are addressed – which are unfolding in parallel: socio-economic planning and implementation, and stakeholder engagement. Within each of these, the relevant steps/tasks and sub-tasks, and measurements of success are described, together with the following details: available tools or resources, conditions for implementation, and indicators to consider or to be addressed for successful implementation (also see Tables II–XI).

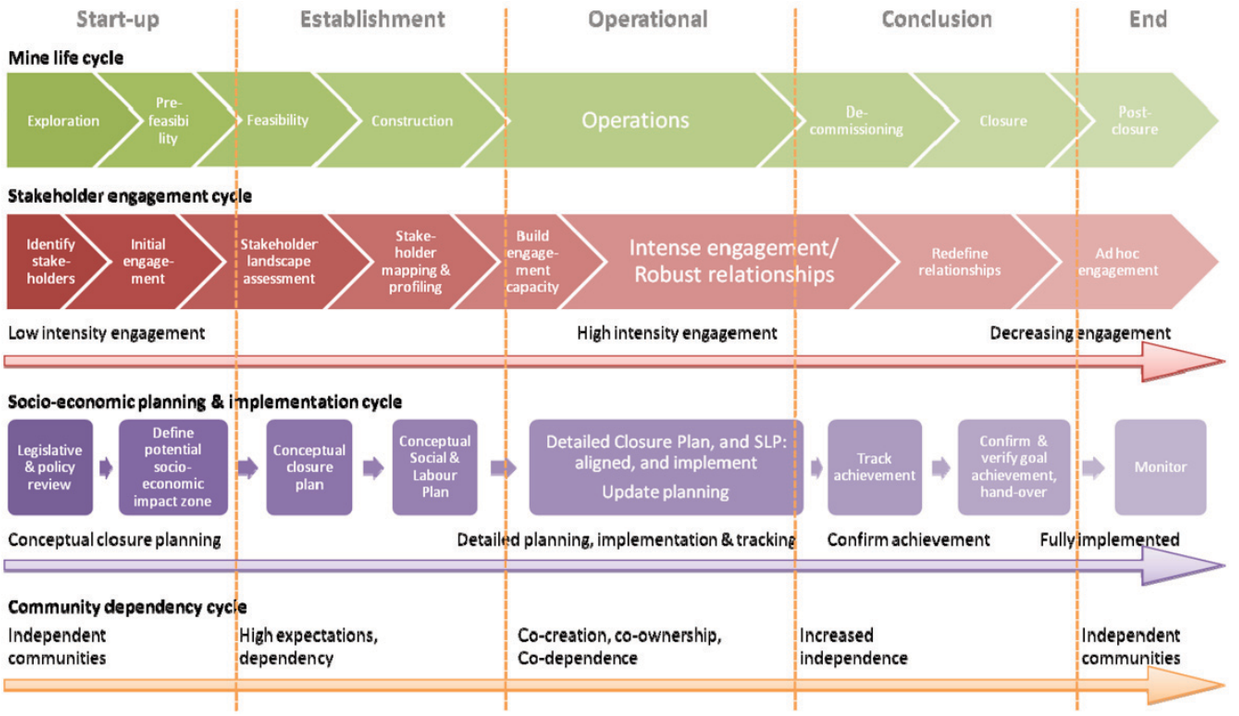


Figure 1—Overview of socio-economic mine closure processes, mapped against the mine life cycle

Table II

Start-up phase: socio-econimic planning and implementation cycle

STEP / TASK	SUB-TASK	MEASUREMENT OF SUB-TASK SUCCESS: TASK OBJECTIVES	AVAILABLE TOOLS/RESOURCES	CONDITIONS FOR IMPLEMENTATION	MEASUREMENT OF TASK /STEP SUCCESS: INDICATORS TO CONSIDER	MEASUREMENT OF TASK /STEP SUCCESS: OUTCOMES OF TASK
Legislative and Policy Review	• Identify relevant legislation and policies • Develop closure policy (if not already developed) • Identify specific legal and policy provisions pertaining to social aspects of mining	Identify social development, legal and policy requirements	• Legal and policy requirement register • (Develop company policy if not available) • Tool H		• Mining Charter Scorecard (2005) • Relevant provisions of Minerals and Petroleum Resources Development Act (2002) • Relevant policy provisions	• Process & commitment established to ensure compliance with all social legislation and policy
Define Potential Socio-Economic Impact Zone	• Identify possible labour-sending areas	• Map the broadest possible area of social and economic influence in respect of employee recruitment	Socio-economic impact assessment by means of: • desk research • ad hoc engagement with selected sources of information, and • observation		• Achievement of task objectives	• Baseline data established and mapped • All aspects of socio-economic influence are defined and geographically mapped • Thorough understanding of the social and economic environment in which mining is to take place
	• Define services needed by the mine	• Inventory of services established				
	• Identify source of upstream services	• Inventory of upstream services established				
	• Identify downstream dependencies	• Potential dependencies documented				
	• Define source of bulk utilities available to the mine	• Inventory established				
	• Map client base geographically	• Sphere of economic influence mapped in respect of clients				
	• Identify & map settlements (formal and informal) affected by the above (labour, services, clients)	• Inventory of key strategic stakeholders and geographical zone of influence defined				

Table III

Start-up phase: stakeholder engagement cycle

STEP / TASK	SUB-TASK	MEASUREMENT OF SUCCESS: TASK OBJECTIVES	AVAILABLE TOOLS/ RESOURCES	CONDITIONS FOR IMPLEMENTATION	MEASUREMENT OF SUCCESS: INDICATORS TO CONSIDER	MEASUREMENT OF SUCCESS: OUTCOMES OF TASK
Identify Stakeholders within Social Impact Zone	• Consider government at national, provincial and municipal levels; NGOs; stakeholders within communities. • Identify existing stakeholder structures e.g. municipal management teams, tribal councils, CBOs, etc.	• Ensure all stakeholders and existing structures identified to facilitate engagement	• Tool G		• Ongoing stakeholder identification & mapping throughout life of the mine • Most appropriate stakeholder mapping methodology	• Understanding of the dynamic stakeholder base • Initial stakeholder map • Identification of stakeholders to engage initially
	• Initial mapping of stakeholders of mining project	• 1st iteration of stakeholder map: Map stakeholders according to most relevant methodology (i.e. their sphere of influence vs. support for the project)	• Tool K			
Plan & implement initial low intensity stakeholder engagement	• High level stakeholder engagement plan	• Obtain initial goodwill and support from strategic stakeholders and directly affected parties	• Accountability Stakeholder Engagement Handbook	• Thorough understanding of the social environment • Ensure initial engagement is mindful of local leadership, protocols, transparent, respectful	• Initial record of stakeholders' material concerns • Stakeholder understanding • Managed expectations in start-up phase	• Community leaders and other strategic stakeholders understand project • Support or lack of support for project clear • Conditions for supporting project may be known in broad terms • Mining company understands social prospects for mining • Mining company decides to proceed/ delay project / refine approach to securing stakeholder support

Table IV

Establishment phase: socio-economic planning and implementation cycel

STEP / TASK	SUB-TASK	MEASUREMENT OF SUCCESS: TASK OBJECTIVES	AVAILABLE TOOLS/RESOURCES	CONDITIONS FOR IMPLEMENTATION	MEASUREMENT OF SUCCESS: INDICATORS TO CONSIDER	MEASUREMENT OF SUCCESS: OUTCOMES OF TASK
Develop conceptual closure plan	• Establish broad goals and targets for closure	• Establish high level planning for mine closure • Internal agreement on broad closure goals • Initial sharing of broad closure goals with key stakeholders	• Tool D	• Thorough understanding of the socio-economic environment	• Internal agreement on broad closure goals. • Understanding of the social and economic environment	• High level mine closure plan for socio-economic aspects of closure. • Mine commitment to conceptual closure plan and implementation during operations
Develop conceptual Social and Labour plan (SLP)	Internal conceptions of • Area of development responsibility • Internal portable training opportunities	• Establish initial geographical and skills development scopes • Align with Integrated Development Plan (IDP) and Local Economic Development Plan (LED) objectives • Identify opportunities to mobilise resources	• Existing government and NGO/NPO education and youth development programmes • National Development Agency	• Thorough understanding of the socio-economic environment	• Internal agreement on SLP • Understanding of the social and economic environment • Flexibility for further expansion and amendment of plan	• High level mine SLP • Mine commitment to SLP, further development of SLP and implementation during operations

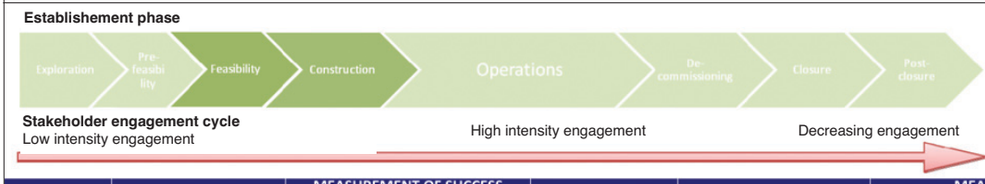
Table V

Establishment phase: stakeholder engagement cycle

STEP / TASK	SUB-TASK	MEASUREMENT OF SUCCESS: TASK OBJECTIVES	AVAILABLE TOOLS/RESOURCES	CONDITIONS FOR IMPLEMENTATION	MEASUREMENT OF SUCCESS: INDICATORS TO CONSIDER	MEASUREMENT OF SUCCESS: OUTCOMES OF TASK
Stakeholder Landscape Assessment	• Assessment of human and physical stakeholder landscape, within the framework of and aligned with the required legal processes, but not limited to these	• Identify social risks and developmental opportunities post-closure, including conflict internal to communities • Identification (and subsequent management) of hostilities and support, and power relationships • Identification of stakeholder values • Understanding stakeholder networks and associations • Identify stakeholders' material concerns and issues	• Needs Assessment • Social Audits • Consultative assessment • Issue-specific surveys • Stakeholder perception surveys • LED workshop • One-on-one interviews Tools B, C, E, and F	• Sufficient financial resources for proper assessment • Third party objectivity. • Combination of quantitative and qualitative data • Stakeholders understand, are open to, and support assessment: proper sensitisation process prior to assessment • Use of as many tools as feasible to validate findings	• Human factors • Physical environment: Infrastructure and places of cultural meaning • Holistic activities • Local knowledge • Grassroots participation • Creative modelling • Local history, customs	Input for stakeholder profiling: • Understanding of functioning of social, political and economic systems and behaviours based on stakeholder input. • Stakeholder/issues matrix • Social risk/issues register • Register of physical stakeholder assets
Stakeholder Profiling and Mapping	• Compile stakeholder profiles: Describe each stakeholder group in terms of membership, sphere of influence, structure, decision making procedures and material concerns or issues. Also profile key individuals • Update initial stakeholder map	• Understand historical, social, political and geographical context and material concerns/issues of all stakeholders • Compile a database of stakeholder profiling information • Reconsider stakeholder mapping methodology, update stakeholder map	• Tool K	• High quality data (dependent on data origin, sources, collection methodology, significance, redundancy and inclusivity) • Established methodology to monitor and scan the stakeholder environment on an ongoing basis • Stakeholder research on regular intervals • Alignment and integration with legally required processes	• Power and influence of stakeholders • Relationships between stakeholders • Stakeholders' material concerns • Support or lack thereof for the mining project • Appropriate method/s to share stakeholder intelligence with company role players • Frequent updates of stakeholder map and profiles	• Detailed profiles per stakeholder group and key individuals • Indication of representation of stakeholder • Identification of cultural variability/consistency • Stakeholder map as visual representation of key stakeholders and their relationship with the company as well as with other stakeholders • List of key stakeholder representatives for future engagement

Table V (continued)

Establishment phase: stakeholder engagement cycle



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Stakeholder	• Assessment of human • Establish current and required employee skills profile	• Identify social risks and • Understand availability of local skills and opportunities for skills development	• Needs • Skills audit	• Sufficient financial • Clearly defined skills needs, skills audit to focus on particular skills, not all possible skills	• Human factors • Community expectations of employment • Commitments made to employ local labour	Input for stakeholder • Employment and skills development options clarified (with special reference to local and labour sending area employment) • Basis for more detailed planning established

Table VI

Operational phase: socio-economic planning and implementation cycle

STEP / TASK	SUB-TASK	MEASUREMENT OF SUCCESS: TASK OBJECTIVES	AVAILABLE TOOLS/RESOURCES	CONDITIONS FOR IMPLEMENTATION	MEASUREMENT OF SUCCESS: INDICATORS TO CONSIDER	MEASUREMENT OF SUCCESS: OUTCOMES OF TASK
Fully develop / align & start implementing Social and Labour Plan	• Define area of development responsibility • Identify internal portable training opportunities for skills transfer, matched to needs	• Stakeholder inputs incorporated • Include training in alternative skills areas such as finance, management, engineering supervising, other mining requirements • Alignment of SLP with IDP, LED to feed into closure plans	• Existing government and NGO/NPO education and youth development programmes • National Development Agency	• Establish milestones • SETA accreditation of training programmes • Budget allocated for "closure" training • Stakeholders involved in design and objectives of SLP, as is the case with closure planning • Alignment and integration with legally required processes	• Social needs met according to capacity of the mine • Learnerships, part-time bursaries, apprenticeships, artisan training, bridging training, ABET provision • Redundancies planned for and managed • SLP reconfigured according to changing circumstances • Interventions and initiatives aimed at reducing dependency on the mine • Mine and other stakeholders act mutually as agents for the other's interests • Training partnerships	Social & Labour plan and closure plan aligned, making provision for: • Training for short-, medium- and long-term alternative employment opportunities aligned with social needs • Skills transferable to other industries • Targeted and effective resource deployment to contribute to future growth incentives • Decreasing dependency of stakeholders on the mine to provide socio-economic sustainability
Fully develop / align & start implementing Social and Labour Plan (cont.)	• Identify social development focus in SLP	• Establishment of sustainable social development projects/programme with development partners	• AccountAbility Partnership for Development Guidelines • Tool A and J	• Focus on high impact projects/programmes • Alignment with socio-economic needs	• Local conditions with regard to: • HIV/AIDS management • Primary health care • Current levels of access to basic services • Nature and quality of infrastructure owned and maintained by local government • Nature and quality of infrastructure owned, maintained and planned by mining company • Municipal capacity to maintain and extend infrastructure • Municipality's future plans to maintain and extend infrastructure and basic services (in IDP)	• Social & labour plan, closure plan and CSI activities aligned, enabling sustainable socio-economic development
	• Unlock BBBEE requirements and opportunities	• Creation of BBBEE policies that facilitate mine procurement from local suppliers		• Audit of existing local suppliers and their skills base	• Capacitation and facilitation of local suppliers to broaden their client base closer to mine closure	

Table VI (continued)

Operational phase: socio-economic planning and implementation cycle

Operational phase

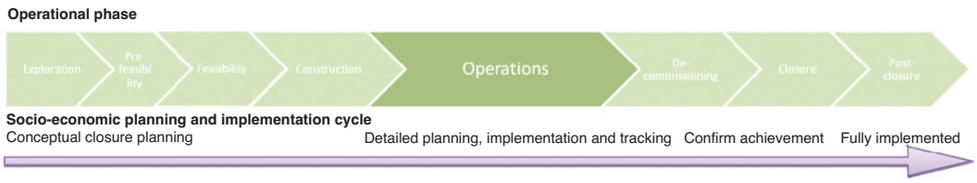
Socio-economic planning and implementation cycle

Conceptual closure planning — Detailed planning, implementation and tracking — Confirm achievement — Fully implemented

STEP / TASK	SUB-TASK	MEASUREMENT OF SUCCESS: TASK OBJECTIVES	AVAILABLE TOOLS/RESOURCES	CONDITIONS FOR IMPLEMENTATION	MEASUREMENT OF SUCCESS: INDICATORS TO CONSIDER	MEASUREMENT OF SUCCESS: OUTCOMES OF TASK
Develop detailed closure plan, align, and implement. **Update as required**	• Define specific socio-economic closure goals, targets & objectives, amended and revised at appropriate intervals, including being aligned with legal requirements	• Achieve agreement on clearly articulated closure goals, targets and objectives • Ensure all stakeholders interests are accounted for • Ensure shared expectations of closure outcomes	• ICMM Mine Closure toolkit	• Mine company interests clarified and shared • Communities' requirements and expectations shared • Other stakeholder interests and expectations shared • Transparency about interests • Proper engagement process, leading to stakeholder support of closure goals (shared vision) • Stakeholder agreement and understanding of infrastructure construction • Transparency about interests / requirements	• Commitments & goals matched with resources and capacity • Local area management potential • Stakeholder power relationships • Community development and infrastructure needs, opportunities to maximise stakeholder benefits • Current socio-economic status of neighbouring communities and labour sending areas	• Agreed set of closure goals, targets and objectives established • Basis for updating established • Basis for verification established
	• Identify mining project related risk and opportunities relevant to socio-economic development	• Consider environmental – land, water, air impacts – risks and opportunities for socio-economic development • Consider other impacts such as shortage of housing and services, influx of job seekers, migrant labour		• Reliable and updated socio-economic community data	• Measure of impact on natural resources • Measure of community dependence on natural resources • Social impact indicator for each issue of concern	• Basis for risk management planning established
	• Resource Identification for Socio-economic development	• To identify resources available to the mine to assist in socio-economic development initiatives driven by the mine closure plan • Define deployment of resources to stakeholders • Identify stakeholder resources	• Creation of strategic local partnerships • Section 1.5: Tool A AccountAbility's Partnership Guidelines.	• Ability to manage partnerships with community, government or private sector development partners • In-house expertise availability • Potential for mobilising stakeholder resources	• Identification of existing under- or non-utilised resources or partners	• Socially capacitated resources available to the mine and to other stakeholders • Enhanced socio-economic impact of development initiatives
	• Develop policies for alternative post-mining land use and infrastructure use for, for instance tourism or industrial development, to support closure plan goals	• Ensure social and labour plans advance, or at least do not constrain closure options • Define mine and stakeholder responsibilities and options for land and infrastructure use post closure • Integration of environmental and social objectives	• Environmental Impact Assessments (EIA's), Strategic Environmental Assessments (SEA's) and Socio-Economic Impact Assessments (SIA's)	• Continuous effective stakeholder engagement process to ensure buy-in and support • Continuous updating and alignment of closure plan with other plans and policies which touch on socio-economic aspects • Taking into account the implications for closure, of all mining actions and infrastructure development during operations • Local or provincial government capacity and resources to accept responsibilities and liabilities	• Site specific planning. • Closure plan revised according to agreed frequency • Creation of lasting value (as defined by stakeholder consensus) • Level and scope of stakeholder input into closure plans • Sufficient level of detail in closure plans: the "what" vs. the "how"	• Congruence between SLP and closure plan • Closure plan current and relevant • Recognition of Closure Plan as human and social development tool • Stakeholders involved in design and objectives of Closure Plan • Housing, infrastructure and bulk services aligned with agreed responsibilities and minimal mine liability

Table VI (continued)

Operational phase: socio-economic planning and implementation cycle



STEP / TASK	SUB-TASK	MEASUREMENT OF SUCCESS: TASK OBJECTIVES	AVAILABLE TOOLS/RESOURCES	CONDITIONS FOR IMPLEMENTATION	MEASUREMENT OF SUCCESS: INDICATORS TO CONSIDER	MEASUREMENT OF SUCCESS: OUTCOMES OF TASK
Develop detailed closure plan, align, and implement. **Update as required (cont.)**	• Implement Closure Plan concurrent with Mining operations	• Ensure adherence to closure plans and achievement of objectives • Integration of risk assessment and management processes with closure processes	• ICMM Mine Closure Toolkit	• Full participation by all stakeholders in assessment of achievements • Mining personnel skills to include stakeholder engagement, research, conflict and expectations management, negotiation and strategy development • Working towards achieving milestones, targets / objectives • Proper project management processes implemented • Monitoring and Evaluation Programme	• Impact and sustainability focused, not output or outtakes driven • Mitigation measures, where problems may arise • Level of risk assessment and risk management as part of closure plan implementation	• Closure process proceeds according to programme • Socially capacitated mining personnel at managerial and cultural levels • Concurrent and successful environmental rehabilitation • Targeted and effective resource deployment • Stakeholders are active development partners. • Sense of unity and common action
	• Refinement and update closure plan according to evaluation outcomes			• Continued stakeholder involvement through intense engagement • Buy-in and support from stakeholders on changes and refinement of closure plan • Tracking socio-economic and demographic indicators	• Fixed interval revision of closure plans with mine life progression • Regular integrated risk assessment and management process (social, environmental, technological, and economic)	• Closure plans aligned with prevailing policy, legislative, socio-economic and environmental circumstances
	• Check / update / ensure financial capacity to manage Closure	• Investigate funding options, i.e. formation of Trusts or other available financial capacity to support implementation of Closure Plan		• Transparency towards stakeholders on funding options and mine capacity to fund closure goals • Stakeholder buy-in and support for selected funding mechanisms	• Financial capability of Trusts and organisations. • Sustainable funding required for successful closure • Financial and management skills development and capacity building programmes • Levels of current financial management skills available	• Required financial support, and financial management capability independent of mine, to ensure sustainable communities after mine closure
	• Check / update / ensure viability of Rehabilitation Trust and maintenance thereof Maintenance/check	• Funding levels vs. rehabilitation needs • Funding provision • Agreed stakeholder rehabilitation goals accounted for	• Trusts, as per closure plan	• Clearly defined rehabilitation goals aligned to stakeholder needs (as agreed)	• Funding level / liability ratio • Rehabilitation milestones funded • Provision for stakeholder roles / expectations	• Adequate rehabilitation trusts
	• Check /update / ensure capacitation of community for environmental management	• As per closure plan		• Clearly defined capacitation goals aligned to stage of mine life • Alignment with post closure land end-use and LED plans	• Milestone achievement • Degree of alignment	• Environmental management and social closure planning aligned
	• Check / Update SLP in respect of Strategy for Redeployment of employees.	• Minimisation of dependencies of employees on mine for future employment as per SLP		• SLP conditions	SLP in respect of: • Alternative job identification and/or creation • Level of diversification / employment sectors • Current employment level • Number of employees to be affected by mine closure • Closure impact on local businesses	• Redeployment successfully aligned with stakeholder needs and sustainable development goals in mine closure plan

Table VII

Operational phase: stakeholder engagement cycle

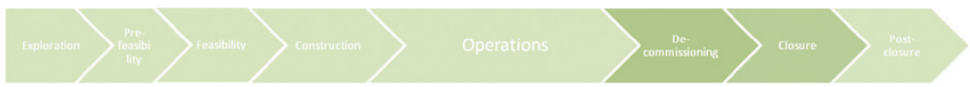
Operational phase

STEP / TASK	SUB-TASK	MEASUREMENT OF SUCCESS: TASK OBJECTIVES	AVAILABLE TOOLS/RESOURCES	CONDITIONS FOR IMPLEMENTATION	MEASUREMENT OF SUCCESS: INDICATORS TO CONSIDER	MEASUREMENT OF SUCCESS: OUTCOMES OF TASK
Build Capacity for Engagement	• Identify engagement capacity needs	• Identify which stakeholders require what type of assistance or capacity building necessary to participate fully in closure engagement • Identify company capacity building needs for stakeholder engagement	• Accountability's Stakeholder Engagement Handbook	• Understanding what engagement entails, and how it differs from "communication" • Alignment and integration with legally required closure processes	• Ability of stakeholders to participate fully in closure planning and implementation processes • Degree of control mutuality • Format/nature of stakeholder engagement • Relationship quality among stakeholders • Available intelligence on stakeholder expectations • Stakeholders' engagement preferences & previous experience of engagement • Company capacity to engage	• Proper engagement, not consultation or communication • Stakeholders: Active participants in closure processes, not recipients of it • Buy-in and ownership of closure planning and outcomes
	• Implement capacity building programmes for engagement aimed at both stakeholders and company resources	• Increase engagement capacity among all engagement partners		• Buy-in and support from stakeholders and company resources to be capacitated for stakeholder engagement. • Commitment to practice and implement newly acquired engagement skills	• Engagement trainees' expectations and experience of the capacity building programme/s	• Empowered Stakeholders, for effective engagement • Increased control mutuality in the relationships between the company and its stakeholders • Improved stakeholder relationships
	• Identify and evaluate existing stakeholder engagement platforms	• Gap analysis between existing and required stakeholder engagement platforms • Creation of stakeholder engagement infrastructure for closure planning and implementation	• Tool H	• Agreement on platform suitability for stakeholder engagement on socio-economic planning and implementation • Agreement on rules of engagement for engagement platforms	• Stakeholders' engagement preferences • Proper mix of engagement platforms to form engagement infrastructure • Rules of engagement for different engagement platforms	• Stakeholder engagement infrastructure as means to engage: Established and supported by stakeholders
Intense stakeholder engagement: **Creation of robust relationships**	• Plan stakeholder engagement	• Engagement goals and objectives set • Engagement protocols defined • Aligned with stakeholder engagement policy • Key messages defined • Position statements to deal with issues & material concerns	• AA1000 SES (Stakeholder Engagement Standards) • AccountAbility Stakeholder Engagement Handbook • IFC Stakeholder Engagement Best Practice report • Section 1.5: Tool H and I	• Updating of engagement programme, as stakeholder landscape changes • Taking stakeholders' material concerns into account • Adherence to stakeholder engagement protocols for particular stakeholders, i.e. Traditional Authorities	• Current relationship quality with particular stakeholders • Power relations in the stakeholder landscape • Stakeholders' material concerns • Applicable levels of engagement to be achieved	• Stakeholder engagement strategy and implementation programme
	• Implement intensive stakeholder engagement	• Through engagement, identify risks and opportunities as they emerge • Co-create with stakeholders alternative solutions to closure problems, progressively. • Create conflict resolution processes • Maintain community participation • Enable shared understanding • Management of expectations	• Existing stakeholder engagement infrastructure, such as Community Development Forums, and Internal employee and union forums • AA1000 SES (Stakeholder Engagement Standards) • AccountAbility Stakeholder Engagement Handbook • IFC Stakeholder Engagement Best Practice report	• Recognition and management of contested opinions of representation and inclusion (including "the minority fallacy") • Sustained and consistent participation • Recognition and management of sectional or individual agendas, and contested stakeholder power • Regular reporting to stakeholders on progress against closure targets	• Degree of participation by all identified stakeholders (private, public and non-governmental) in institutionalised structures • Degree of consensus over developmental goals and priorities • Evaluation of institutional performance and demonstrated commitment by mine management	• Trust between all stakeholders • Mutual understanding and recognition of stakeholders' material concerns and issues • Closure message relayed and received consistently • Development of a consensus closure vision • Robust and lasting stakeholder relationships • Common interests served • Mobilised stakeholders • Ownership of closure process and decisions by stakeholders • Full and fruitful collaboration on common objectives

Table VIII

Conclusion phase: socio-economic planning and implementation cycle

Conclusion phase



Socio-economic planning and implementation cycle

Conceptual closure planning — Detailed planning, implementation and tracking — Confirm achievement — Fully implemented

STEP / TASK	SUB-TASK	MEASUREMENT OF SUCCESS: TASK OBJECTIVES	AVAILABLE TOOLS/RESOURCES	CONDITIONS FOR IMPLEMENTATION	MEASUREMENT OF SUCCESS: INDICATORS TO CONSIDER	MEASUREMENT OF SUCCESS: OUTCOMES OF TASK
Track Achievement	• Measure actual outcomes against objectives and goals	• Determine closure implementation performance, based on achievement of objectives and closure goals	• Closure goals • Closure plan • Social impact assessments and other social and economic research methods	• Independent verification. • Outcomes of verification accepted. • Continuous decreasing of independence on the mine by communities and other stakeholders.	• Closure Milestones and Goals • Sustainable results achieved • Measurable impact	• Ability to address areas of concern quickly and effectively • Closure process staying on track • Stakeholders vouch for progress against closure goals and objectives
	• Address backlog or other implementation problems that hamper goal achievement	• Keep closure implementation on track for achievement of goals • Ensure stakeholders keep on supporting and trusting the closure process	• Stakeholder relationships and engagement processes	• Implementation of risk mitigation strategies as part of closure planning • Root-cause analysis to determine reasons for problems and/or non-performance	• Results of tracking to inform further planning and implementation of activities, projects or programmes • Capacity building and training needs not addressed yet	• Closure process staying on track • Stakeholders vouch for progress against closure goals and objectives • Keep stakeholders involved in closure activities and planning
Confirm & Verify Goal Achievement, Hand-over	• Verification of closure goals formally accepted	• Implementation of planned closure risk management processes • Reduce uncertainty and related stresses surrounding closure • Documented proof of achievement of closure goals and stakeholder support	• Stakeholder relationships and engagement processes • Social impact assessments and other social and economic research methods	• Appropriate notice of closure to stakeholders • Timing and effectiveness of closure planning, implementation and stakeholder engagement • Level of participation, co-creation and buy-in from key stakeholders • Level of financial provisioning for implementation • Alignment and integration with legally required closure processes	• Defined levels of risk to be mitigated • Clarity on roles and responsibilities of stakeholders • Stakeholders' need to manage stress as formal closure comes closer (especially employees)	• Achievement of social justice as per consensus definition • Closure deemed legitimate by stakeholders • Stakeholders capacitated and willing to assume defined and agreed responsibilities • Psychologically and physically independent communities
	• Documented and verified outcomes presented to Authorities.	• Legal requirements shown to be met	• Social impact assessments and other social and economic research methods	• Authorities accept closure outcomes.	• All legal requirements to be met	• Signing of Agreements of Hand-Over • Achievement of legal closure

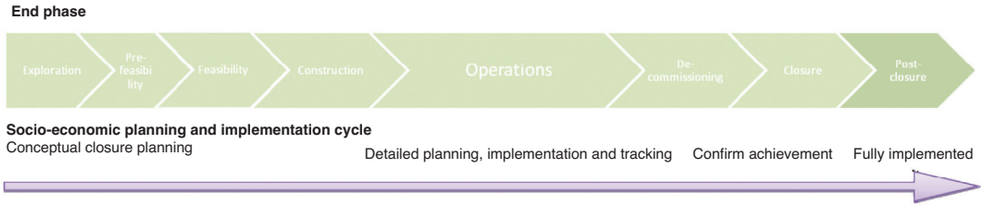
Table IX

Conclusion phase: stakeholder engagement cycle

STEP / TASK	SUB-TASK	MEASUREMENT OF SUCCESS	AVAILABLE TOOLS/RESOURCES	CONDITIONS FOR IMPLEMENTATION	MEASUREMENT OF SUCCESS	
		TASK OBJECTIVES			INDICATORS TO CONSIDER	OUTCOMES OF TASK
Intense engagement continued	• Stakeholder engagement programme followed into the conclusion phase	• Keep stakeholders involved in the decommissioning and closure process • Ensure stakeholder support and buy-in during final stages of closure • Continued achievement of closure goals and objectives	• Existing stakeholder engagement infrastructure, such as Community Development Forums, and Internal employee and union forums • AA1000SES (Stakeholder Engagement Standards) • AccountAbility Stakeholder Engagement Handbook • IFC Stakeholder Engagement Best Practice report	• Similar to the Operational phase. • Continued commitment to stakeholder engagement from the mine management team • Frequent updates to stakeholders on closure progress	• Similar to the Operational phase • Possible apprehension among stakeholders with closure becoming a reality • Co-creation of solutions with stakeholders, where problems need to be addressed	• Continued stakeholder support and buy-in • Ownership of, and commitment to post-closure roles
Redefine relationships	• Define changing relationship with stakeholders • Prepare stakeholders for the changed relationship • Manage stakeholder expectations of engagement at closure point	• Stakeholders understand that engagement with the company will gradually decrease • Stakeholders accept their increasingly independent role to be played as the mine gradually moves out of the area • Address stakeholder concerns about the changed relationship with the mine		• Continued robust relationships and effective engagement through-out the mine life-cycle • Stakeholder involvement in mine closure planning and implementation from the outset • High levels of trust from stakeholders, and sufficient reputation capital for the company to maintain relationships with stakeholders despite possible closure problems	• Stakeholder expectations of engagement during decommissioning and closure • Stakeholders' understanding of the decommissioning and closure process	• Strong relationships, despite increased independence between company and stakeholders • Shared understanding of the decommissioning and closure process

Table X

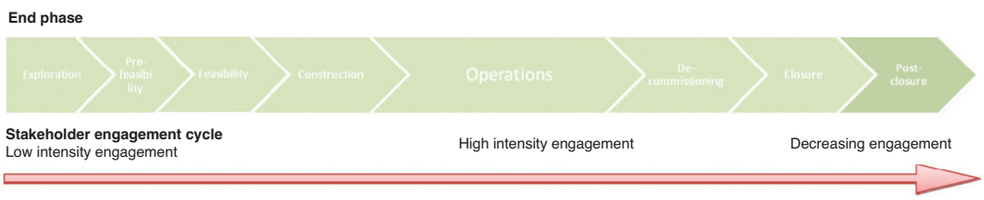
End phase: socio-economic planning and implementation cycle



STEP / TASK	SUB-TASK	MEASUREMENT OF SUCCESS	AVAILABLE TOOLS/RESOURCES	CONDITIONS FOR IMPLEMENTATION	MEASUREMENT OF SUCCESS	
		TASK OBJECTIVES			INDICATORS TO CONSIDER	OUTCOMES OF TASK
Monitoring	• Monitor scope and objectives defined	• Monitoring programme defined • Monitoring processes defined • Responsibilities assigned	Social, scientific and economic monitoring methodologies as appropriate	Community, local government support for monitoring activity	• Socio-economic closure goals vs. actual achievements	• Success socio-economic closure plan measured • Learning points identified

Table XI

End phase: stakeholder engagement cycle



STEP / TASK	SUB-TASK	MEASUREMENT OF SUCCESS	AVAILABLE TOOLS/RESOURCES	CONDITIONS FOR IMPLEMENTATION	MEASUREMENT OF SUCCESS	
		TASK OBJECTIVES			INDICATORS TO CONSIDER	OUTCOMES OF TASK
Ad hoc engagement	• Agreement on what and how to monitor	• Agreed scope and objectives of monitoring programme	• AA1000 Stakeholder Engagement Standards	• Community, local government support for monitoring activity	• Socio-economic closure goals vs. actual achievements	• All stakeholders understand closure outcomes • Learning points appreciated and basis for possible intervention established

Supporting checklist and tools for the process guide for mine closure planning and implementation

Tool A

Strategic local partnerships: evaluation checklist

The community in general	• Do we understand the social and psychological character of the community targeted for sustainable development? • Do we comprehend the key community issues and developmental priorities • To what extent have we analysed the social impact of mining in changing the nature of the community?
Community development	• Have we adequately appraised/evaluated community development problems or the challenges that face sustainable development in the post-closure period? • What social capital exists to produce sustainable development? What opportunities exist to use this social capital? (Chown and Hoffman)
Stakeholders	• Who are the key stakeholders and what are their developmental interests? • Is there sufficient consensus between stakeholders to form and sustain a strategic developmental partnership?
Actions	• What action needs to be taken or selected to roll-out development? • What specific projects need to form part of the action plan? What are the risks and assumptions per possible projects (AusAID Logical Framework Approach, 2003.BKGR. www.audaid.gov.au/ausguide/ausguidelines/ausguidelines=1.pdf) • How are actions to be prioritized? • How are actions to be implemented? • How are development achievements, goals and targets to be monitored in a closed-out system involving review and restructure?

Tool B

Stakeholder needs modalities

	Scope and purpose	Degree of stakeholder involvement
Needs Assessment	• Looks at what communities need, or think they need through community interrogation	• Low or medium
Social Audits	• Looks at social or developmental performance from the 'outside'	• Low
Consultation	• Seeks stakeholder opinion about development	• Medium
Involvement	• Analyses needs and resources with emphasis on stakeholder action, involvement and empowerment	• High

Tool C

Stakeholder assessment battery

Method	Useful for	Advantages	Disadvantages
Social survey	• Obtaining extensive quantifiable data from large numbers of people	• Can provide accurate information when done systematically	• Requires specialist input and receptive audience
Interpersonal interviews	• Obtaining 'rich' qualitative information from key role players	• Overcomes problems of low literacy and education	• Resource intensive in terms of time, language skills. • Also possibility of interviewer and subject bias, confidentiality, logistics, etc.
Community observation	• Getting a 'feel', descriptive or impressionist information about a community	• Enriches data	• Resource intensive and subject to bias. • Open to misinterpretation, especially in cross-cultural settings
Case studies	• Obtaining an in-depth view of a representative group	• Enriches data and provides illustrative data	• Issues of confidentiality and representativeness
Focus groups	• In-depth discussion of key issues/ identification of key issues and priorities	• Require skilled facilitation and/ or languages skills	• Can be difficult to analyse
Analysis of available statistics	• Provide sample frame, quantitative information, and tracking change	• Cheap, may be readily available and comprehensive	• May be absent, unsystematic, and redundant
Documentary analysis	• Background and contextual information	• Provide longitudinal data	• Problems of accuracy may be non-existent
Oral histories	• Background and contextual information especially on pre-extractive period	• Provide longitudinal data	• Problems of accuracy and available information

Tool D

D Examples of broad closure goals

- High quality self-maintenance of the physical environment
- Good attitudes to living there
- Needs matched with resources
- Local facilities meet people's goals and aspiration
- Residents involved in the social life of the community
- Supportive community
- Formal and informal networks
- Adequate income levels and employment prospects of residents
- Local enterprises viable
- Political representation, systematic, and structured
- Local area management
- People influence decisions affecting them, are involved in local decision-making, and participate in community organizations
- People are attached to the area
- Infrastructural, social, and economic links with the district or region of which it forms a part; local identities that differentiate the area from others.

Tool E

Area profiling indicators

- Base demographics—number of people in the community, their age, gender, education, income, culture, etc.
- Population density and projection (birth, death, immigration/emigration rates)
- Unemployment rate and projections—among women, youth etc.
- Agricultural/commercial/industrial labour force, standard outputs, land use, etc.
- Housing—availability, forecasts
- Tourism—numbers, spending, seasonal characteristics
- Education and training—facilities, pupil-teacher ratios, training statistics
- Social trends—orphan, pensioners, the disabled
- Transportation networks, roads, car ownership
- Environment—quality, water, and waste disposal
- Health—birth and mortality rates. Gini coefficient
- Community safety—accidents, crime, fire and rescue
- Performance indicators/Service delivery—bulk, recreational, etc
- Externally funded development networks
- Deprivation indices/census indicators
- Electoral statistics—results, power relations (Burton, 1993)

Tool F

Physical and human assets

Availability and physical location of physical assets in the area that can be of benefit to the community for sustainable development invariably include:

- Housing stock
- Hospitals and clinics
- Community centres
- Places of worship
- Schools
- Parks and recreation facilities
- Hospitals and clinics
- Employment opportunities and their product, service or wealth-producing functions
- Human assets that are a source of strength and potential in the community such as:
  - Formal and informal skills
  - Networks of informal support such as families, households, and neighbours
  - Formal support networks such as self-help or community organizations
- Human qualities such as resilience, determination, community mindedness, the spirit of voluntarism or, above all, active citizenship, i.e. people's time and expertise made available to others.

Tool G

Community stakeholder groups

There are various groups and people who are stakeholders in closure other than the mine and ordinary community members. Individuals and organizations who have a vested interest in the community but do not necessarily live there, and people who work in (or for) the community, are accountable for it, or are influential in its development. These include, but are not limited co:

- (Most immediately) local and district authorities
- Traditional authorities
- (Less immediately) regional and national authorities
- Ward councillors and members of political parties
- Development agencies, trusts, NGOs
- Doctors, teachers, the police, and faith organizations
- Community and social workers
- Business representatives, from industry to local retailers and SMMEs
- Self-help or community organizations working for, or on behalf, of the community (CBOs)

Tool H

Examples of engagement methods or platforms

Engagement methodologies include platforms where stakeholders are involved and actively participating in the discussion, as opposed to other communication methods that are one-way in nature, and mostly used to disseminate information. The following list provides some examples of engagement methods:

Engagement method	Useful for	Advantage	Disadvantage
Progress seminar/ workshop	• Talking through general opinion with stakeholders	• Allows community/stakeholder participation	• May not be representative
Spoken presentation/ briefing	• Clarifying and disseminating goals	• Provides authoritative direction/leadership	• Discourages community inputs
Community (and employee) meetings/road shows	• Mobilizing for closure process	• Reaches out into the community	• May be seen as ingenuous
Consultation with employee representatives, unions	• Essential on issues of structure-building and downgrading	• Closure cannot take place in its absence	• Can 'over-mobilize' key stakeholders
Reports to employee assistance programmes	• Stimulates communication	• Assists participatory ethos	• May convey little key information
Visits of communities to operations	• Underlines community involvement	• Assists corporatecommunity relations	• May raise expectations
Participation in LED forums	• Cooperation with local government and IDP planning	• Integrates local (or regional) government with closure process	• Can complicate closure process by invoking nonessential stakeholders
Meetings with local/ provincial government	• Cooperation with governmental stakeholders	• Integrates government into closure process	• Can 'politicize' closure process
Informal/formal conversations	• Generating sensitive data	• Confidential and relationship-building	• May be seen as dealmaking

Tool I

Examples of communication methods or channels

Communication channels that can be used in addition to direct engagement of stakeholders

Engagement method	Useful for	Advantage	Disadvantage
In-house surveys	• Gathering regular information	• Provides hands-on data	• May reflect what management wants to see
Leaflet	• Distributing information	• Economic means to assist communication networks	• May be inadequate in explaining situation
Community newsletter, magazines, local media coverage	• Builds popular support for closure process	• Expensive and requires high level of literacy among audience	• May convey inaccurate or manipulated information
Letters, e-mails, electronic communication	• Rapid dissemination of information	• Mass communication	• Requires technology and literacy
Mine closure plan	• Essential in rounding off information	• Integrates objectives and action plans	• Can 'lock' planning into one mode
CD, video and/or DVD	• Extending public communication	• Quick in reaching mass market	• Requires technology and articulate audience
Display/exhibition	• Advertise developmental initiatives	• Builds public image of corporate responsibility	• Can raise community expectations
Website information	• Extends communication networks	• Full-time access to key stakeholders	• Not always friendly to exchange of information

Tool J

Partnership checklists

Requirement necessary but not sufficient	Key performance questions
Inclusivity—there are no prescriptions involving size as long as the group is small enough to work effectively but large enough that interested people are not excluded	• Is the group the 'appropriate' size?
Representation—members are mandated to represent the majority (if not all) community interests, including special interests e.g. the youth, women, the disabled	• Are there important people who still need to be brought on board?
Accountability	• Are members of the board responsible to a wider constituency(ies)?
Direction—there should be a common and precise understanding of specific long-short-, and medium-term objectives	• Does everyone understand the purpose of the group?
Range—the primary/secondary issues, priorities	• Will the focus be on health, housing, employment, or on more limited issues such as training and skills development?
Function—–is the group a project management group or will it delegate implementation to a network or service sub-group?	• Will there be sub-committees (and for what purpose)?
Commitment—all members should identify with the group	
Procedures/terms of reference—should be clear, i.e. when meetings are to take place, where they should be convened, etc.	• Does everyone agree with what we are trying to do? • How often will the group meet? • Who will be responsible for convening meetings? • Who will draw up the agenda and take the minutes? • Where will the group meet? • Is there fixed or open membership?
Finance	• Does the committee have sufficient money to support its operation?
Skills	• Is there adequate person-power to, inter alia, manage the group, perform administrative functions, undertake development research, liaise with the local community, operate technology, etc.

Tool K

Stakeholder mapping guidelines

A stakeholder map is a visual display of a company's strategic stakeholders, mapped and prioritized according to a particular methodology. Stakeholder mapping is the process of identifying stakeholders with potential strategic consequence/s for a company, and systematically considering what exactly their 'stakes' in the company are. The 'stake' that these individuals or groups have in the company varies greatly and has to be fully understood in order to engage each stakeholder effectively. Essentially, the following three steps form part of stakeholder mapping:

- Identifying and grouping stakeholders based on the company's corporate strategy
- Ensuring and validating that identified stakeholders are those groups that can either hinder or facilitate the achievement of the company's strategic goals
- Prioritizing stakeholders based on the company's strategic intent.

Choosing a stakeholder mapping methodology depends on the nature of the stakeholder landscape, stakeholder information available, as well as intended use of the stakeholder map. Methodologies can follow a one or multi-dimensional approach:

- One dimensional, i.e. merely listing or grouping stakeholders in a particular order, for instance a list of national and provincial government departments or ministries
- Two-dimensional, i.e. mapping stakeholders according to their status on two variables, such as size of stake and environment in which stakeholders operate (industry, market, sociopolitical, etc.)
- Three-dimensional, i.e. mapping stakeholders according to their status on two variables, and adding their predisposition towards the company as a third variable—whether they are positive, negative, or neutral towards the company, indicated as a colour code on the stakeholder map
- In more complicated maps a fourth dimension can be added, i.e. using not only the placement on two axies, and a colour code, but also using the size of the stakeholder icon on the map to indicate, for instance, strategic importance of the stakeholder to the company

Some of the most often used methodologies for stakeholder mapping, include mapping stakeholders according to the following methods:

- *Folders and sub-folders—structural representation*: using a folder system, resembling the storing of files in folders and sub-folders on a computer, to represent stakeholders according to main groups, and sub-groups within the main groups. Folders and sub-folders may indicate aspects such as how stakeholders organize themselves in terms of structure, or group stakeholders together according to their issues or engagement needs.
- *Positioned in a stakeholder solar system*: using this methodology is like mapping stakeholders as planets in the universe around the sun. In the same way that the entire universe may have millions of planets, the broader socio economic, political, industry and market environments in South Africa comprises hundreds of potential stakeholders. Yet, each company will have its own solar system – planets (or stakeholders) with 'stakes' in its business emerging around its operations. With this methodology magnetism between the sun and planets equates, the relevance of a stakeholder weighed against the company's strategic intent.
- *Clusters of stakeholders—shared focus in interest*: displaying the different ministries in national government according to their focus is an example of this methodology. As government has structured itself into eight clusters with ministries belonging to particular clusters, and working closely with ministries in other clusters, a logical way to create a national government stakeholder map is to depict the different clusters with their relevant ministries.
- *Stakeholder influence on other stakeholders vs. stake in the company*: rating stakeholders on a ten, point scale in terms of (a) their ability to influence other stakeholders in the stakeholder landscape, and (b) their size of stake in the company. In addition, colour coding is used to indicate stakeholders' predisposition towards the company in terms of positive, negative, or neutral.
- *Levels of stakeholder commitment or relationship status or engagement leve*l: using a curved line to indicate relationship status with stakeholders (ratings from relationship measurement), or stakeholders' commitment levels towards the company, according to categories such as: awareness, acceptance, understanding, commitment/ownership, or the level at which stakeholders are engaged (i.e. monitored, information sharing, consultation, collaboration, etc). Predisposition towards the company can be added by means of colour coded icons on the curved line.
- *Degree of organization vs. levers of influence available to stakeholders*: this methodology maps stakeholders on a continuum for how well they are organized, and the levers of influence to their disposal (i.e. ability to influence the business environment, operational impact, contractual negotiations, mandatory control, etc.).

Tool L

Closure process characteristics consistent with sustainbale development

International best practice shows that sustainable closure processes should demonstrate:

- Ethical business practices
- Fundamental human rights and respect for different values, cultures and customs
- Valid data and sound science
- Continual improvement in health, safety and environmental performance
- Biodiversity and integrated land-use planning
- The social, economic, and institutional development and long-term viability of communities
- That oppression and inequality is tackled in a purposeful, continuous, comprehensive, and action-oriented manner (Twelvetrees, 1991).

In the local context, sustainable closure processes also:

- Require that closure is not 'simply' skilling people or providing jobs, but provides for long-term economic diversification
- Reflect concrete social realities rather than vague and standard prescriptions
- Align indigenous South African social conditions with international best practice
- Represent site specific frameworks and strategies derived from systematic developmental research, that are usable on a micro-managerial, step-by-step sequential or concurrent basis
- Are deployable on a rehabilitative basis, in cases where closure turns out to be unsustainable.

The socio-economic aspects of mine closure and sustainable development

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