

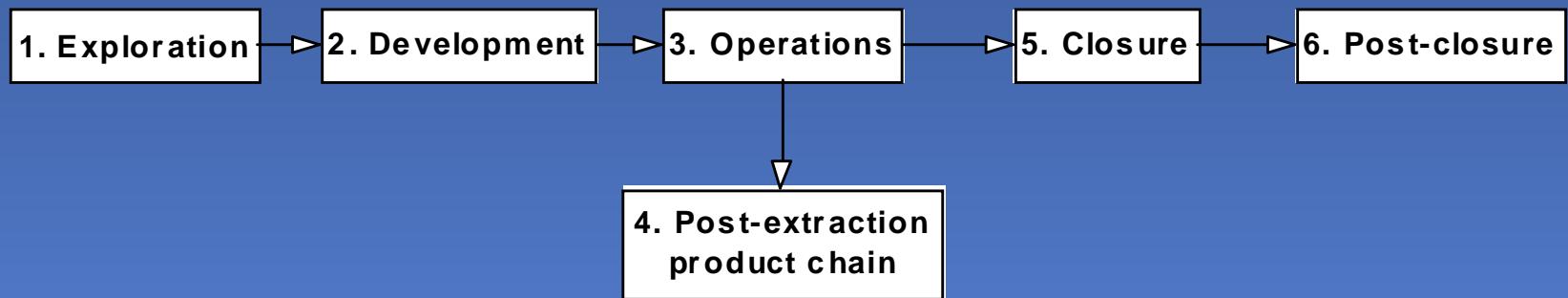
Mining, Sustainable Development and Biodiversity Issues through the Mine Cycle

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The Mine Life Cycle



Exploration

Key Issues

- Impacts of exploration on biodiversity are often overlooked.
- This phase is crucial in determining the location of future mining operations.
- Direct impacts are less obvious, but can have significant indirect impacts (e.g. access roads)
- Smaller companies with low public profile usually carry out exploration.
- Exploration involves large investment with high risk of few returns.
- Information about biodiversity may not be available.

Exploration

Possible Next Steps

- Company commitment to responsible exploration policies and procedures.
- Incorporation of biodiversity information into site assessment, including surveys where appropriate.
- Transparent and accountable procedures with external monitoring.
- Government frameworks for land use and exploration procedures.
- Conservation organisations provision of expertise and information.
- Initiatives to ensure juniors follow best practice.
- Financial incentives for exploration good practice (taxes, investment conditions, etc)

Development

Key Issues

- Decisions made lay the foundations for future mining operations and post-closure.
- Direct biodiversity impacts are relatively negligible but increase with infrastructure development.
- Decisions are typically made by closed groups focussing on financial and technical issues.
- Companies have considerable power in the process.
- There is often a lack of tools, skills, information and incentives and rules to deal with biodiversity issues.

Development

Possible Next Steps

- Plan for closure (decommissioning plans, financial mechanisms, land tenure arrangements, etc).
- Frameworks for incorporation of biodiversity expertise and information within all decision-making processes (EIA, EMS)
- Ensure decision-making is transparent and involves equitable stakeholder participation.
- Systems for evaluation of alternative land use options.
- State and IFI legal and financial frameworks for consideration of biodiversity issues.
- Develop structures for enhancing communication and stakeholder involvement.

Operations

Key Issues

- Mining involves processing huge amounts of minerals and significant environmental change – direct impact
- Mining also involves more significant wider changes in financial, social, political and physical assets and power relations - indirect impacts
- How these impacts affect biodiversity depend on management of the operations, and the enabling environment they work within.
- These impacts will be valued differently from different perspectives.
- Whilst impacts for direct impacts is often clear, responsibility for indirect impacts is unclear, multiple and complex.

Operations

Possible Next Steps

- Involvement in biodiversity issues beyond the mine site.
- Consideration of opportunities for added-value to biodiversity from mining operations.
- Integration of biodiversity issues into environmental and social management and reporting systems.
- Land-use management to integrate mining with wider landscape uses.
- Collection, production and sharing of information on biodiversity issues.
- Ensuring open, transparent and diverse processes for monitoring and dialogue.
- Systems to engage groups which operate 'below the radar'

Post-extraction & Closure

Key Issues

- Impacts on biodiversity from minerals continues after they have been extracted from the mine site.
- Mineral product chains are complex and hard to follow.
- Responsibilities for post-mining activities, management and use may be unclear and beyond company control.
- The process of closure can determine the long-term impacts beyond the mine life (financing, tenure, etc).
- Alternative land use options compete for the site.
- Many opportunities exist for enhancing biodiversity value.

Post-extraction & Closure

Possible Next Steps

- Establish impacts in product chains beyond direct company responsibility.
- Investigate means to establish links between consumer and mining operations.
- Plan for post-closure activities during development (e.g. financial and institutional provisions).
- Consider different long-term conservation and land use options.
- Adopt product and mine site life cycle approaches.
- Establish frameworks to clarify company responsibilities.
- Ensure equitable stakeholder power in decision-making.

