

CONCEPT NOTE

MINE CLOSURE

Background

Mining operations are finite economic activities which are relatively short term. For a mining project to contribute positively to an area's development in any lasting way, closure and post closure objectives and impacts must be considered. A mine closure plan, incorporating environmental rehabilitation and post-mine economic and community stability, is key for mining to contribute to any sustainable development.

Physical environmental rehabilitation involves restoring mine affected land to a stable, productive condition. Rehabilitation and revegetation of the mine site and waste dumps and control of run-off, discharges and seepage are therefore crucial elements in a mine closure plan. Long term environmental concerns include water quality, acid drainage, chemical and physical stability of waste facilities and mine site stability. Addressing these concerns implies undertaking post mine environmental management and monitoring and ensuring long-term responsible stewardship.

Communities surrounding a mining area will always be affected by mine closure. Direct employment created by a mine is lost, indirect mine-dependent livelihoods are affected, and related economic activities are put at risk. The future of mine-initiated community projects (e.g. health, education and cultural projects) can also be uncertain after mine closure. Minimising post mine economic hardship and maintaining community development can be done most effectively when considered from an early stage. This is particularly true when a mine operates in a remote developing region which is highly dependent on it. For long term development to take place in such areas, economic and community concerns have to be addressed. One approach is to create development programmes in partnership with local and regional authorities.

Another important element of mine closure is the financial aspect. The accrual of funds for mine closure as well as the establishment of a financial assurance¹ are both important economic tools to provide funds for closure and post closure costs, especially in the case of operator bankruptcy. However, one of the realities that mining companies and society faces is that in many cases the closure costs have been underestimated or not provided for. In addition, unforeseen premature closure is an occurrence that jeopardises the best mine closure plans and any rehabilitation provisions it may contain.

Mine closure encompasses all these aspects: environmental rehabilitation, economic and community stability, closure cost estimation, provisions for closure and post-

¹ To provide a fund for mine closure when the owner is not financially able to do so.

closure funding and unforeseen closure issues. What is the best way to design mine closure to ensure that all these elements are accounted for?

Objectives

The objective of the proposed working paper is to evaluate how mine closure can be best designed in order for a mine to contribute to an area's sustainable development. A review of existing information on the issues associated to mine closure will be used to develop a set of non binding guidelines or recommendations on mine closure incorporating consideration of the following questions.

- What are the long term environmental and safety concerns (wastes, water quality, site stability etc.) and what are the tools to deal with them?
- What are the feasible end use options for the mine site? Should total restoration be the objective?
- How far does responsibility for a closed mine extend? Is it possible to reach a "walk away" status considering the relationship between actual and predicted impacts and the associated costs?
- What are effective ways to sustain post-mine economic activity in the mining area, community development and community infrastructure?
- What are the best ways of managing post closure costs? What are the financial tools to cover closure costs (accruals) and how effective are they?
- Which factors contribute to unanticipated, premature closure, how is it managed and what provisions should be put in place for this possibility (financial surety)?

As a separate task, Policy associated with mine closure will be considered:

- Based on experiences around the world, what should mine closure regulatory practises and policies include?
- How do you deal with governance on mine closure (participation and transparency in decision making and information availability and accuracy on post mine closure impacts)?

Project Design

The project will initially consist of an overview of existing approaches and technologies related to mine closure. Existing methods of managing environmental concerns, economic and community benefits will be included.

We are considering proposals to examine mine closure policy including governance (public participation) issues. The results of this research could then be used as a basis for the development of guidelines on mine closure.

A small committee of experts representing the broad topics under consideration will work with the project manager and MMSD to guide the development of the information summaries. Based on the background document, the committee will participate in the discussion to lay the groundwork for guidelines on mine closure. A

workshop will be convened in July 2001 to review the draft working paper and provide input for the guidelines.

Expected Results

Among the results expected from this project are:

- An overview of current technical and financial practices with respect to mine closure. Mine closure issues will be described such as the final objectives of mine closure, environmental predictions and impacts, economic and community development and governance structures.
- Guidelines on mine closure practice and policy that consider how a mine can contribute to an area's sustainable development.
- Identification of research needs related to mine closure.