Finance, Mining & Sustainability

The Gamsberg Zinc Project
South Africa
Project Summary

- Discovered in 1971
- Anglo American purchased 33% interest in 1974 and increased interest to 100% in 1998
- Feasibility study completed 2000
- Estimated capital cost: US$900m
- Production: 300,000 t/y of zinc (4% of global demand)
- Investment decision deferred due to market conditions
Project Components

Open Pit Mine
- waste rock
- ore (6% zinc)

Concentrator
- tailings
- concentrate (48% zinc)

Zinc Refinery
- refinery residues
- zinc metal
Location
Social Context

- Located in Northern Cape - South Africa’s least populous and poorest province
- 51% of households live in poverty
- Regional unemployment over 65%
Economic Context

- Regional economy dependent on mining, agriculture and services
- Decline in mining industry has resulted in contraction of economy and rising unemployment
- Agricultural potential limited - dependent upon low intensity livestock grazing with huge farms of 10,000+ hectares generating few jobs
- Tourist potential limited - wild, empty landscape but few points of interest
Environmental Context

- Semi arid sandy Bushmanland plains
- Bounded to north by Orange River
- Numerous inselbergs ("island mountains") supporting rich variety of plant life
- Bordering onto succulent karoo - a biodiversity hotspot
- Few existing conservation areas
- Area highly vulnerable to climate change
What is Sustainable Development?

Achieving the right balance between economic development, social responsibility and environmental care.
Contribution to Sustainable Development

Product
- Gamsberg will produce zinc metal that will be used to meet the needs of present and future generations for shelter and mobility

Activity
- Impact of mine on surrounding communities, the regional and national economy and the environment
Socio-Economic Impact: Employment

- 5000+ jobs during construction
- 1000+ direct jobs during operations
- Significant multiplier effect
- Target local recruitment: 70%
Socio Economic Impact: Regional Development

- Railway connecting region to major ports
- Improved power transmission and water supply
- Housing policy designed to encourage development within existing communities
- Upgraded health and educational facilities in partnership with local Government
- Training and manpower development
- Bursaries for secondary and tertiary education
- Cost of future investment in region reduced by investment in infrastructure and workforce
Socio-Economic Impact: SMEs

- All non core services will be outsourced
- Opportunities in small scale farming, catering, laundry, security, small vehicle maintenance and tourism
- SME manager to assist with capacity building in local communities
- Business Trust - a partnership between the local community, local Government and local business to provide seed capital - co-financed by mine
Socio-Economic Impact: Tourism

- Viewing platform overlooking pit
- Tours of refinery
- Displays on mining, local archaeology, botany
- Visitors centre will provide focal point for information on regional tourist attractions
- Eco-tourism
Socio-Economic Impact: National

- Estimated tax revenue: US$50m p.a.
- Approx 60% of construction cost (US$600m) will be used to acquire goods and services from South African suppliers - creating jobs and tax revenue
- Estimated foreign exchange earnings of US$300m p.a.
Socio-Economic Impact: Major Issues

- Influx of people
- Squatters
- Crime
- HIV/ AIDS
Socio-Economic Impact: Duration

- Estimated mine life: 33 years
- Long lifetime for an industrial project
- But location in remote rural area means alternative employment opportunities are scarce and socio-economic impact of closure more pronounced
- Mine will provide 30+ year “window of opportunity” for local communities to break the cycle of poverty
- But needs to be part of a wider regional development plan
Environmental Impact

- Very little known about ecology prior to EIA
- Gamsberg is an “island” of succulent karoo vegetation, surrounded by sandy plains
- 340 plant species
- Isolated from main area of succulent karoo
- Unusual climatic, geomorphological and soil conditions
- Large number of endemic plant species, including one possible new species
- Protected from over-grazing
Minimising Environmental Impact

- Consultation with Wildlife Society, Botanical Society and Succulent Society
- Location of open pit determined by geology but location of all infrastructure selected to avoid areas of high bio-diversity
- All mining activity removed from south-facing slopes that support greatest density and diversity of plant and animal life
- Minimise land area disturbed: 20% of inselberg directly impacted by mining; 80% fenced to prevent access and conserve habitat
Ex Situ Conservation

- Partnership with National Botanical Institute
- Vulnerable plant species to be removed from mining area and relocated to specially created conservation area at the NBI Karoo Desert Gardens
- In addition to conservation, the facility will encourage tourist and educational visits providing an insight into the flora of a rarely visited part of South Africa
In Situ Conservation

- Partnership with WWF
- Co-sponsorship of conservation area within Bushmanland
- Conserve animal and plant species typical of region
- Provide opportunities for eco-tourism and local employment
- Increase conservation area in an under-conserved part of South Africa
Environmental Impact: Major Issues

- Plant habitats will be destroyed over area of mine and possibly a wider area
- Waste management
- Effective rehabilitation of waste rock dumps and tailings extremely problematic in an area with very low rainfall and virtually no top soil
- The mine will leave an unsightly scar on the landscape for generations
Gamsberg: Sustainable Development?

- Do the social and economic benefits of the project outweigh the environmental costs?
- Who decides?
Attitudes of Interested and Affected Parties

- Local communities and organised labour overwhelming in favour of project - mass demonstrations in support of project
- Local and national Government generally in favour
- Large farm owners opposed (mainly for social reasons)
- NGOs primarily concerned about environmental impact - attitudes ranging from active engagement to mitigate impacts to aggressive opposition
Role of Financial Institutions

- Financial institutions are accustomed to evaluating potential safety, health and environmental liabilities.
- Bad SHE management is bad business - a legitimate concern of financial institutions.
- Increased reporting and transparency on SHE performance should assist the efficient allocation of capital - reducing the cost of capital for responsible mining.
Role of Financial Institutions

- Sustainability is a much broader concept involving evaluation of complex trade-offs between social, economic and environmental costs and benefits.
- Not clear that financial institutions have the capacity or the mandate to judge sustainability.
- Decision on whether a project contributes to sustainable development and therefore whether or not it should proceed is essentially political - the role of (capable, ethical, democratic) Government.
- Building capacity in all stakeholders is the major challenge.
Role of Financial Institutions

- Unlike all other stakeholders, apart from Government, Financial Institutions have an effective power of veto over whether or not a project proceeds.
- Unlike Government, Financial Institutions are neither democratic nor accountable for their decisions.
- In many cases they are not even located in the same country as the project.
Financial institutions are accustomed to assessing and pricing risk associated with SHE performance.

“Sustainable development” is a much broader and more complex concept.

There are real risks in demanding that Financial Institutions assume responsibility for making “sustainable development” decisions:

- Lack of capacity
- Undemocratic
- No accountability