



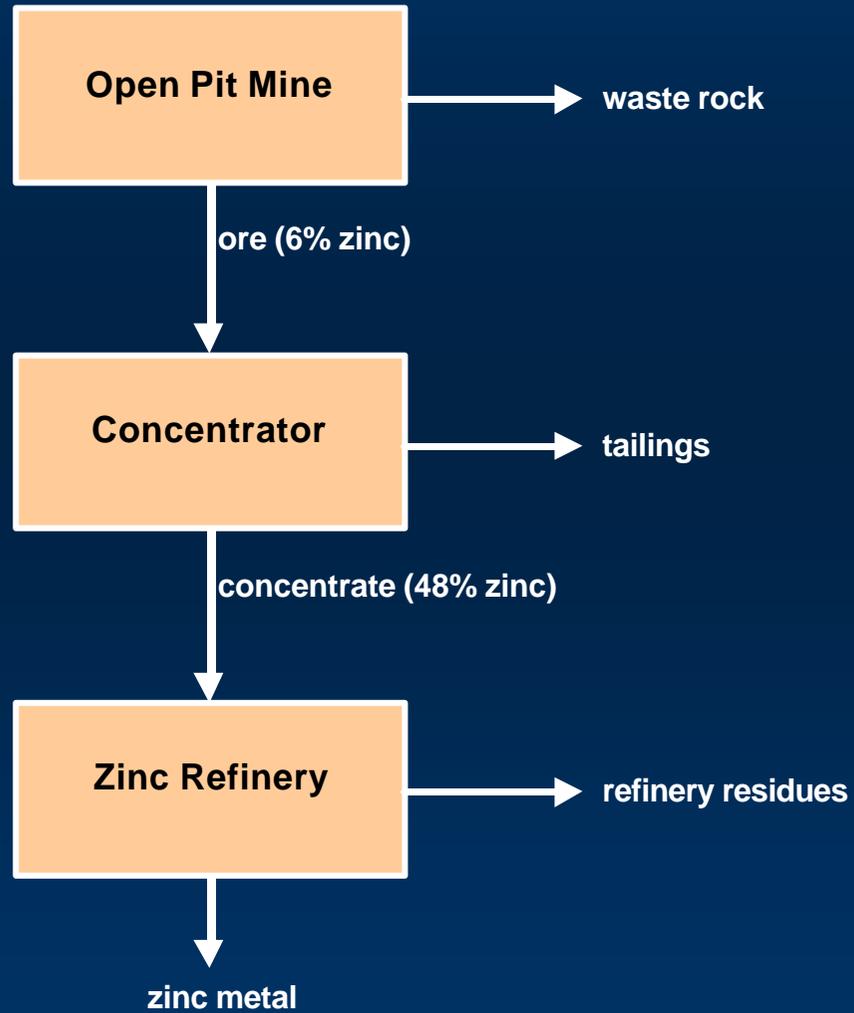
Finance, Mining & Sustainability

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
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Project Components



Location

Aerial View

Black Mountain Mine

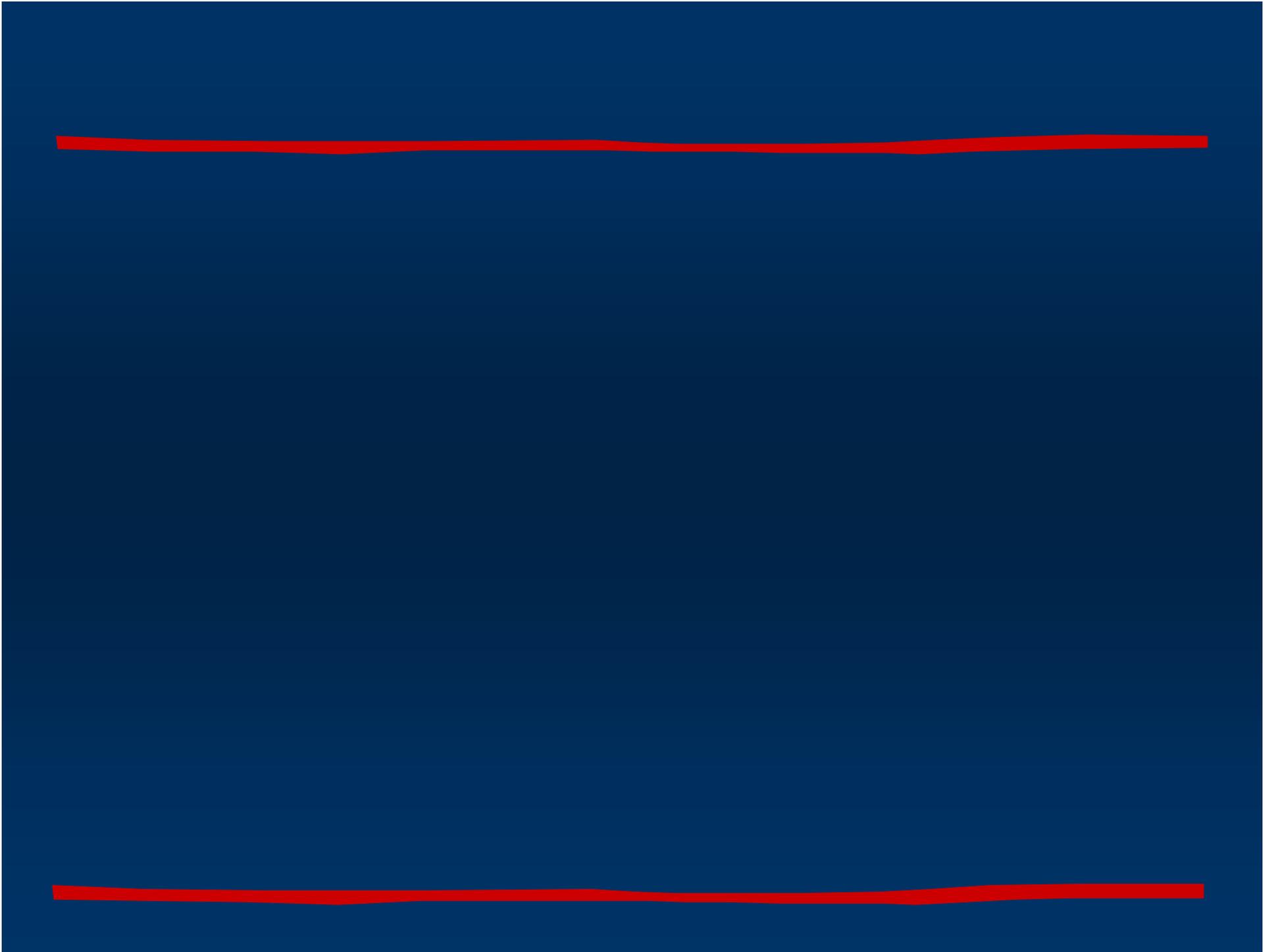
Aggeneys village

Plant site

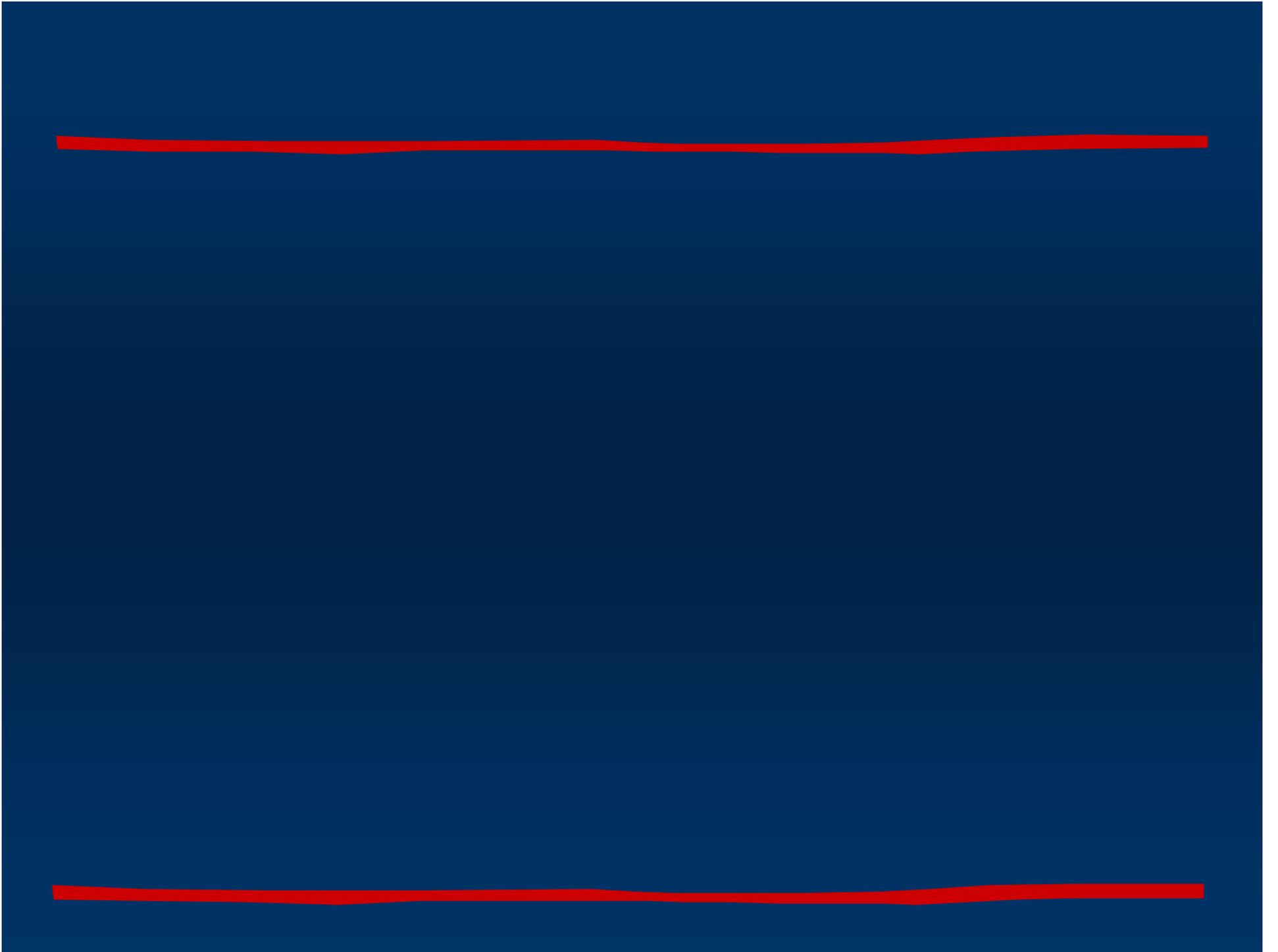
Tailings dam site

Gamsberg









Social Context

- Located in Northern Cape - South Africa's least populous and poorest province
 - 51% of households live in poverty
 - Regional unemployment over 65%
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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
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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 bio diversity hotspot
 - Few existing conservation areas
 - Area highly vulnerable to climate change
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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
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Socio-Economic Impact: Employment

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

- Influx of people
 - Squatters
 - Crime
 - HIV/AIDS
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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
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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
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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
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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
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In Situ Conservation

- Partnership with W W F
 - 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
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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
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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
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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
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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
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Summary

- 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
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