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Mining and Biodiversity Guideline

Mainstreaming Biodiversity into the Mining Sector

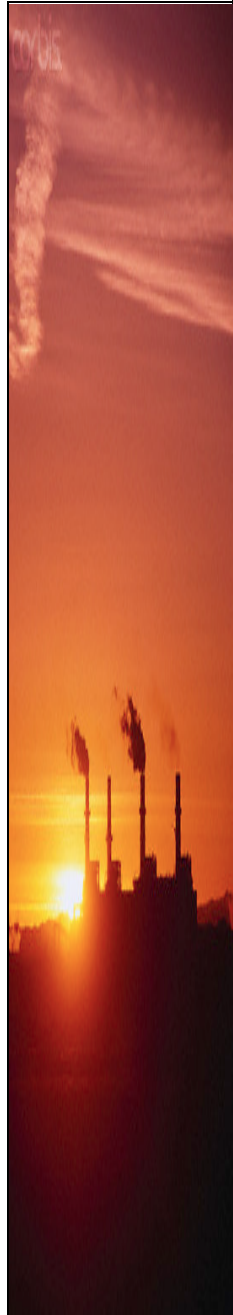
IDB 2013



Role of Natural Resources in Socio- Economic Development



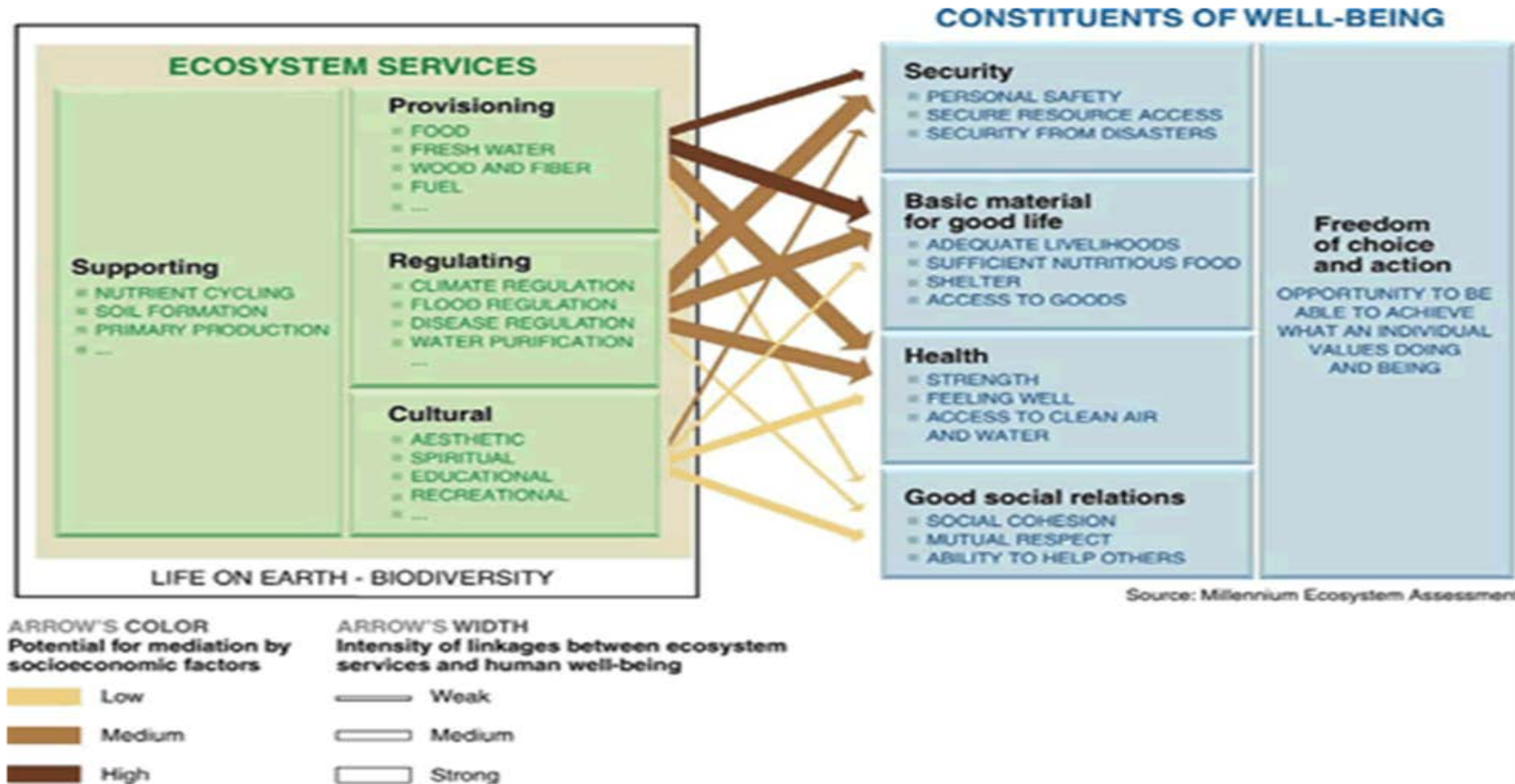
- Mining is one of six key priority sectors for job creation and socio economic development generating 30% of export revenue and employing 2.9% of the economically active population
- SA is the 3rd megadiverse country in the world: SA Biodiversity valued at R73bn~ 7% of GDP- forms the basis of ecological infrastructure
- SA Biodiversity and its mineral wealth fundamental to the Green Economy, job creation and overall sustainability



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Biodiversity and Ecosystem Services Underpins Development.....



- The Mining Sector is a partner in ensuring maintenance of ecosystem services such as food, water, soil stability, flood control.....

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Some observed pressures from mining on ecosystems...

- **Direct impacts** (readily identifiable)
 - Activities involving land clearance (access road construction, exploration, blasting and drilling, stripping, impoundment construction)

- **Indirect /secondary impacts** : (difficult to identify immediately)
 - Can occur beyond or downstream of the boundaries of site-pollutants from site and after the project activity has ceased

- **Induced impacts**: not directly attributable to the project, but occur because of presence of project (associated industries, or residential settlements)

- **Cumulative impacts**-from project combined with impacts from past, existing and reasonable foreseeable future projects that would affect the same biodiversity or natural resources (a number of mines in same catchment)



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Some observed obstacles experienced by mining . . .



- **Direct impacts:** Costs of litigation for direct impacts on ecosystems (acid mine drainage, disturbance of water regimes); costs for litigation in planning process due to overlap of mine plan with key biodiversity area.
- **Indirect impacts:** Reputational impacts affecting license to operate in SA or elsewhere; inappropriate restoration efforts leading to lack of issue of closure certificate and costs of secondary degradation
- **Induced impacts:** Cost of staff time dealing with lack of clarity/understanding of biodiversity issues and spatial priorities in the country
- **Cumulative impacts:** Increasing lack of trust, bureaucratic confusion on how to address/facilitate harmonisation of biodiversity and mining interests



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Guideline Focus

- A need was identified to guide where and how mining takes place within the biodiversity context:
 - Viewing mining as a landuse and economic activity
 - Landscape context
 - Ecosystem services focus
 - Downstream impacts
 - Induced impacts

Best practice to achieve this goal:

- framed in terms of the MPRDA and NEMA authorisation and management processes as a point of reference



Intended users of this Guideline.....

- **Mining companies'** strategic planning, exploration, development, closure, and mine management teams
- **National government officials** of DMR, DEA and DWA
- **Provincial government officials** of Environmental Affairs, Water Affairs and conservation authorities
- **Environmental assessment practitioners (EAP)** and **Environmental Control Officers (ECO)**



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Contents of Guideline

Guideline provides:



- Info on areas of high biodiversity and ecosystem service value (including maps)
- Summary of biodiversity legislation applicable to mining
- Spatial overview of mining resources in relation to threatened ecosystems
- Guidance on mitigating biodiversity impacts from the different phases of mining
- Addressing offsets



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Principles of Guideline

Guideline is based on 6 key principles for achieving sustainability

1. Apply the law
2. Use the best available biodiversity information
3. Engage stakeholders thoroughly
4. Use best practice in EIA to identify, assess and evaluate impacts on biodiversity
5. Apply the mitigation hierarchy when planning any mining-related activities and develop robust EMPs.
6. Ensure effective implementation of EMPs, including adaptive management.



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1 APPLY THE LAW

- MPRDA is the main legislation governing mining and petroleum production
- NEMA principles apply
 - Interpreted and applied in the full sense of its intent at every step
- Mining activities begin only once all authorisations have been approved



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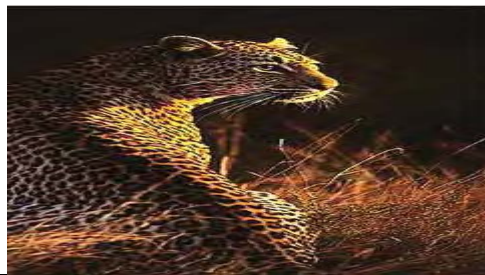
2 BEST AVAILABLE BIODIVERSITY INFO

- At every stage of mining cycle
- Adequate assessment by specialists required not only during EIAs but also planning and implementation
- Avoid fatal flaws early on
- Minimise the need for rehabilitation or biodiversity offsets



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3 STAKEHOLDERS

- Engaged at all stages to different degrees of effort
- Benefits of early and effective engagement
- Risks of poor stakeholder engagement should drive better engagement practices
- More local and downstream stakeholders in biodiversity priority areas
- Opportunities for innovative partnerships with local communities and for voluntary biodiversity stewardship



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4 MITIGATION HIERARCHY PROVIDES CLEAR APPROACH FOR AVOIDING IMPACT

MITIGATION HIERARCHY

Avoid or prevent

Refers to considering options in project location, siting, scale, layout, technology and phasing **to avoid impacts** on biodiversity, associated ecosystem services, and people. This is the best option, but is not always possible. Where environmental and social constraints are too high mining should not take place. In such areas it is unlikely to be possible or appropriate to rely on the latter steps in the mitigation hierarchy to provide effective remedy for impacts.

Minimise

Refers to considering alternatives in the project location, siting, scale, layout, technology and phasing that would **minimise impacts** on biodiversity and ecosystem services. Even in areas where the environmental and social constraints are not too particularly high for mining to proceed/take place every effort should still be made to minimise impacts.

Rehabilitate

Refers to the **rehabilitation** of areas where impacts were unavoidable and measures are taken to return impacted areas to a condition ecologically similar to their 'pre-mining natural state' or an agreed land use after mine closure. Although rehabilitation is important and necessary, unfortunately even with significant resources and effort, rehabilitation is a limited process that almost always falls short of replicating the diversity and complexity of a natural system.

Offset

Refers to compensating for remaining and unavoidable negative effects on biodiversity. When every effort has been made to minimise and then rehabilitate remaining impacts to a degree of no net loss of biodiversity against biodiversity targets, **biodiversity offsets** can provide a mechanism to compensate for residual (unavoidable) negative impacts on biodiversity

5 MANAGING RISK THROUGH A ROBUST EMP

- EMP is a tool for specifying mitigation and management
- An enforceable blueprint
- Must follow best practice as well as legal requirements (generic requirements listed)
- Environmental degradation must be managed to NEMA principles
- Plan with closure in mind (cradle-to-grave)
- Must address Non-compliant EMPs



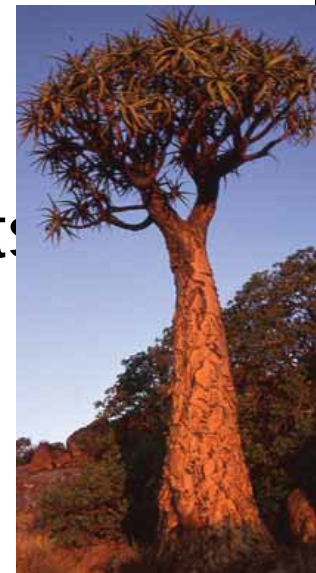
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6 EFFECTIVE IMPLEMENTATION

- Implementation and enforcement
- Monitoring, progress and performance assessments
 - Should be annual
 - Should be independently reviewed
- Adaptive management should be applied where necessary
 - Monitoring
- Government are guardians and inheritors



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Main Messages....

- 1. Good decision making requires consideration of biodiversity issues and impacts**
- 2. Impact on biodiversity pose a risk to environment, mining, people, and our economy**
- 3. Manage risk through**
 - a) Applying the guiding principles**
 - b) Applying mitigation hierarchy**



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Some potential concerns



- Guidelines will be used to prevent mining
- Guidelines will be perceived to be an additional burden for mining companies, especially smaller and empowerment companies
- Capacity within the Departments to support the roll-out



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THE LARGER CONTEXT OF SA'S DEVELOPMENT

- Guidelines only recommend that mining not be allowed in formally protected areas in the country...currently, litigation is already doing this
- Acceptance of protected areas as important for natural heritage and other development opportunities is embedded in the National Development Plan and will be globally and highly commended
- Earn SA nationally enhanced reputation for other development and foreign investment



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VEHICLES FOR IMPLEMENTATION..



- Ministry of Water and Environmental Affairs and network of civil society partners are keen to form partnerships that support responsible mining that has a minimum impact on natural resources
- We can work with SAMBF to create a new vehicle to specifically promote partnerships to assist with implementation of guidelines



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