

Minerals Background Briefing Paper for the National Sustainable Development Strategy

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This paper explores some of the legislative and policy implications of aligning minerals development with sustainability.

1. Trends and Forecasts

1.1 Key Historical and Current Trends

Mining is a temporary land use and is intrinsically unsustainable. With the coming of the industrial age, mines became vast enterprises, employing whole communities and radically transforming landscapes. In many instances, and especially in Southern Africa, these industrial mines were founded on massive ore deposits with long periods of active mining. These deposits were large in relation to global supply, ensuring high profits and enabling mines to support infrastructure development on a large scale. With globalisation and the rapid expansion of exploration, few such deposits are now brought into production and mines can no longer directly fund development as in the past. In South Africa, these developments are compounded by a history of political, economic and social inequities, which have resulted in high rates of poverty, illiteracy and unemployment and unsustainable patterns of resource use and waste generation. These past inequities also resulted in the entrenchment of white male dominance in the industry – the remnants of which are still noticeable today.

Development and communities

The early period of minerals development in Southern Africa resulted in the rapid and chaotic growth of towns and cities. Today, mines are opened with closure in mind and the post-mining phase of the operation is carefully planned before construction. Even though employee accommodation is planned, informal settlement may result when development of wealth-creating enterprises, like mines, in impoverished regions exerts a strong pull force on surrounding (and distant) communities. Inward migration occurs on a large-scale to escape the desperation of rural poverty. In some cases, this migration has resulted in further impoverishment of women and children in the labour sending areas and displacement of local communities around mines.

Unplanned settlements with high levels of unemployment lead to social ills, exploitation of the vulnerable, especially women and children, prostitution and alcohol abuse. The growth of these settlements has been promoted by the modern mining practice of paying employees a living-out allowance, instead of providing company housing, and by the devastating effect of HIV & AIDS which has led to a rise in the number of child-headed, impoverished households. This is a vicious circle as such developments often further promote the spread of HIV.

The mining and minerals sector has accepted the challenge to address HIV/AIDS, not only for the benefit of its workforce, but also for the associated and surrounding communities (Elias *et al.*, 2001). As HIV prevalence increases and morbidity and mortality rise, the mining sector will be faced with the increasing economic, social and environmental costs of an infected workforce. The sector has been a key player

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in the fight against HIV/AIDS, providing a substantial proportion of the initiative and effort, in spite of its contribution to the spread of HIV by creating or perpetuating many of the risk factors, such as single-sex hostels and migrancy.

Environment

While individual mine sites may directly affect large areas, the indirect and cumulative impacts associated with many sites can affect entire regions (Cooke, 1999). Associated activities, such as power generation, transportation systems and subsidiary industries, can add to these impacts. The physical footprint of mine infrastructure is small in comparison to other land uses such as agriculture, but mining-related impacts are usually more intense, and may affect much larger areas through the dispersal of pollutants via rivers, the atmosphere and along transport routes spanning hundreds of kilometres (Hoadley *et al.*, 2002). This much larger area that may be affected by mining is the biological footprint of the mine. Mining impacts may also occur at a global level. As a consumer of electricity and a supplier of coal for its production, mining is a major agent in South Africa's emission of greenhouse gases.

Open-cast coal mining in Mopumalanga and gold mining in Gauteng have resulted in important loss of habitat. Coal measures underlie some of the country's prime agricultural land. The old practice of shallow underground mining has resulted in large areas of subsidence and spontaneous combustion. This has effectively sterilised the land above the coal and rendered it useless. The cumulative impact of many small mines and quarries in Gauteng and near Rustenburg is a matter of growing concern. While the extraction of gold-bearing ore from depths of between one and three kilometres has little direct impact on the land surface, pollution through the disposal of water pumped from underground workings can result in significant impacts. Lowering of the water table has resulted in the sudden formation of large sinkholes, particularly in the Carletonville area (Robb & Robb, 1998).

Many mines produce acid mine drainage as a consequence of exposing sulphide-rich minerals to the atmosphere. The volume of acid mine drainage (AMD) entering the country's rivers is difficult to estimate as the number of mines in the country is not accurately known. This drainage, especially the decant from old collieries, has severely degraded water qualities in the Olifants, one of South Africa's most important rivers. Old mine workings in the Central Rand goldfield, near Johannesburg, have filled with water which has become acidified. To conduct mining operations in surrounding mines, this water has to be pumped to surface where it is currently treated to effluent discharge standards and released into rivers and streams. Local acidification of streams and wetlands has reduced biodiversity and encouraged the proliferation of acidophilic species. The disposal of mine wastes is arguably the greatest source of mining environmental impact in South Africa. In the past, economic rather than environmental factors dictated the siting of mine waste deposits.

Economic contribution of mining

The mining industry makes a substantial direct contribution to development through wages. The current wage bill is unusually high for any industry and, at about 22.5 percent of total mining revenue, reflects the labour intensity of South African mining, especially in the deep gold mines. While the total number of employees in the mining industry has declined over the last decade, average remuneration has increased and the fraction of mining revenue going to wages has decreased only slightly. The total economic benefit to households dependant on mining has been at least stable, although fewer households benefited. Wages and remittances continue to provide relief from poverty in many districts in South Africa and in neighbouring countries.

In rural labour-sending areas mines often offer the only alternative to low productivity employment such as subsistence agriculture. To a small degree new skills and wealth have filtered back to these areas, and recruitment and financial systems set up by the industry have become important components of development infrastructure. In the medium to long-term, however, the contribution of mining to sustainability through labour will become less important as mines become increasingly mechanised. New mines commissioned today can make a greater contribution through creating infrastructure and stimulating upstream and downstream industries.

Current trends

Important changes affecting the rules of mineral development since 1994 include:

- a) a drastic change in politics, ushered in by negotiation, a spirit of reconciliation and a desire to settle disputes peacefully,
- b) the globalisation of the South African mining industry in parallel with the opening up of the domestic mineral resources to foreign investment and
- c) replacement of a narrow focus on environmental management by a holistic approach to mineral development through adoption of the paradigm of sustainable development,

(Cawood, 2004).

The two main forces in negotiations for new policies are: party-political and ministerial eagerness to address past imbalances (Cawood, 2004) – regarded as unjust by industry facing new levels of international competition – and a need to build economies of scale and to streamline commodity offerings. The new minerals legislation resulting from these forces is the Minerals and Petroleum Development Act (No. 28 of 2002 – MPRDA). A key instrument, envisaged by the MPDRA for driving sustainable development (SD), is the Social and Labour Plan (SLP). The growing emphasis on SLPs provides opportunities for aligning longer-term mining developments with governmental development initiatives.

These initiatives, as reflected in integrated development plans (IDPs) reviewed by Atkinson (2005), cover a variety of areas: attracting capital investment for new businesses; job creation; training; local sourcing and assisting local entrepreneurs. Mines have diminishing capacity to absorb large numbers of job seekers as international competition forces reductions in labour forces and increases in levels of capital-intensive technology. Outsourcing also contributes to smaller workforces.

The promotion of small, medium and micro enterprises (SMMEs) is key to many government economic growth plans and is linked to economic diversification and entrepreneurship. In the survey conducted by Atkinson, ten IDPs contained clauses promoting the development of small scale mining. In this, they are supported by the Department of Minerals and Energy (DME) which had established a division to promote small scale mining (SSM) in keeping with the White Paper of 1998. A concern is that local authorities see SSM as merely SMMEs in the minerals sector without realising the complex costs and benefits associated with the sector.

1.2 Key Forecasts

Mining is a mature industry with many mines exploiting increasingly marginal ore deposits. In the near future, we will see increasing numbers of jobs lost through downscaling and ultimately more mines closing even though the rapid rate of job loss seen over the past decade has been arrested by resilient commodity prices. In some traditional mining areas of South Africa, such as Ekurhuleni, mining is in serious decline and will only be able to access unmined resources at depth with a significant

investment in technology. The reality in these areas is that new mining ventures are either small scale mining or dump reprocessing activities.

In this context, we face a development crisis if past practices are not improved. One area with high impact potential is the persistent lack of alignment between company development initiatives and IDPs coupled with lack of engagement with local authorities. Mine-initiated development projects experience a high rate of failure, often, in addition to lack of coordination with IDPs, because large sums of money are spent without providing ongoing advice and without sufficient attention to the sustainability of projects. Communities frequently have few, or none, of the skills required to take ownership of development projects and very little monitoring and evaluation of development projects is undertaken. Currently, mining companies approach community development on an individual basis, even where different operations are active in the same locality. There are indications of an emerging realization that there is a business case for collaboration.

To promote SD at mine sites, critical interactions between IDPs (local government), mine planning and business practice (mining companies), environmental regulations (provincial government) and mining authorisation (national government) needs to occur. Current attempts to facilitate this interaction, such as the Regional Mining Development and Environment Committees (RMDECs), have not proved effective. The DME is tasked with providing leadership in this matter to draw the relevant stakeholders together. If the critical linkage between mining development and IDPs is not made, the potential long-term development benefits from mining may never be realised locally. To ensure this tie-in, mines may have to include the cost of capacitating local government into the project feasibility studies.

Key changes to business practice that are required on a wide scale include reorganisation of companies to deal with challenges of SD delivery: SD and safety, health, environment and community (SHEC) management teams need to be established at both corporate and operation levels. Local mining companies need to follow the lead of large multinationals which have board sub-committees to manage the sustainability spin offs from their operations. Consequently, corporate governance policies are increasingly required to include policies for capacity building, enterprise-wide risk management, closure policies, product stewardship policies and scholarship programmes (Limpitlaw *et al.*, 2005). This must be supported by increasing environmental certification (ISO 14001), programmes to reduce resource use per unit production, management of land rehabilitation, management of large volume and hazardous waste, energy conservation, demand side scheduling and management of pollutants.

Current trends in the minerals sector include widespread mechanisation with concomitant reductions in labour levels, off-shore diversification by major mining companies, increasingly stringent environmental regulations and increasingly effective environmental management at leading companies, uptake of social impact mitigation, a move towards integrated planning, differentiation of the major companies into two tiers: the good SD performers and the indifferent, an emergence of SSM, a crisis of a lack of technical skills and the long-term loss of mining's appeal to high-achieving students¹.

¹ This last trend has been off-set in the short term by the increase in the sector's attractiveness to young black students though BEE initiatives.

1.3 Significant Points of Intersection

Partnerships between mines and other organisations are required to facilitate SD of local communities. Mine interventions should be designed to support programmes already identified by other stakeholders (Atkinson, 2005).

One of the great challenges facing the promotion of SD in South Africa is that intersection between minerals policies and other development policies is not explicitly promoted. The country does not currently have a comprehensive industrial growth strategy. To establish this, a framework for linking economic, industrial and monetary policy is required. Such a framework would alleviate the currently problematic land use decisions. This requires policy integration at the highest level of government so that it can be fed down to the local level, where developmental policy is implemented (Mohan, pers., comm, 2005).

The Municipal Systems Act (No. 32 of 2000) requires all local authorities to establish local economic development fora (LEDF) to promote sustainable local economic growth and development. Key components of SLPs, mandated by the MPRDA are human resources development, local economic development (LED) and managing downscaling – in other words, SLPs require input from IDPs. Furthermore, Section 39 of the MPRDA requires mines to undertake socio-economic analysis for their SLPs. This is a key intersection through which sustainability of communities can be bolstered by coincidence of purpose (mines and local authorities). Environmental and social impact assessments are a useful tool for aligning mine developmental planning with LED.

A challenge for all development projects, not just those associated with mining, is the provision of access to information. This is key to building trust and ensuring effective public participation in decision making. The right to privately held information is guaranteed in terms of the Promotion of Access to Information Act (No. 2 of 2000) and the Constitution (Section 32). The provision of this access can be achieved through effective use of the LEDFs.

Settlement issues are key areas of focus of municipal IDPs, especially providing formal housing settlements for informal settlements and constructing more houses in existing towns and suburbs. In areas undergoing mining booms (such as Rustenburg) local authorities are unwilling to accept full responsibility for managing expanding settlements caused by mining operations (Atkinson, 2005). The burden on local authorities is increased through contemporary company approaches, such as the promotion of family housing instead of hostels.

The fact that mining companies own large land parcels increases their impact on spatial planning by creating difficulties in consolidating and densifying land uses. Mine management of these land assets should be compatible with uses envisaged by the IDP – this is particularly important when the planned uses are agriculture or tourism (Atkinson, 2005). The size of the land parcels makes mines suitable partners for agricultural programmes. Currently, agricultural support is not a municipal competency, but it does form a component of the LED frameworks in leading municipalities – for instance, Ekurhuleni owns and manages a commonage for the benefit of impoverished tenant farmers. Mines could thus support municipal functions such as spatial planning, water provision, urban agriculture, municipal commonage development, backyard food security programmes and SMME development.

Rehabilitating mine dumps has the potential to unlock the future value of land. This land can then be used for development. This may be a 50-100 year process and needs to be linked with IDPs to ensure the provision of transport infrastructure and other servitudes. This way real development benefits can be unlocked. Difficulties arise from the fact that IDPs have a five-year cycle and do often not make provision for such long-term planning.

Municipalities have their own social workers and the White Paper for Social Welfare (1997) suggested that social welfare services should be decentralised from the Department of Social Development to municipalities (Atkinson, 2005). In spite of this, there has been no coherent attempt to devolve welfare services to municipalities. In the face of chronic capacity shortages, the consequences of severe social problems such as HIV/AIDS, growing levels of unemployment, rapid urbanisation and widespread poverty are increasingly felt at local level. Mines frequently address a number of these issues through their SLPs. Cooperation with the local authority could unlock synergies of benefit to both parties.

The Skills Development Act (97 of 1998) requires companies to train both their employees and members of their local communities. Mines have significant competencies in training their employees. The Mining Charter requires both the training of employees and upliftment of the local community. Provision of training, such as ABET and skills training greatly improves employees' prospects during and after the life of the mine. This has positive spin-offs for both the mines immediate locality and the labour-sending areas (when migrant labour is employed). There is currently a mismatch between the Social Plan and local government's skills development strategy – largely due to a lack of coordination (Mohan, pers. comm., 2005). This inhibits synergies that could be obtained by aligning mine- and government-initiated training programmes.

New air quality legislation in South Africa, the Air Quality Act (No. 39 of 2004) (AQA), is expected to become a significant driver of improvement in air quality management. AQA replaces the Atmospheric Pollution Prevention Act (No. 45 of 1965) which was principally concerned with controlling noxious or offensive gases, smoke, dust and fumes emitted by vehicles. AQA is far more comprehensive, modern and rigorous in its approach and is intended to protect the environment through securing ecologically sustainable development while promoting economic and social development; and securing each citizen's constitutional right to an environment that is not harmful to their health and well-being by enhancing the quality of ambient air (Warburton, pers. comm., 2005). Air pollution control is a major municipal function. AQA requires active leadership from municipalities and will act to encourage participation by industry and mines in local fora. Emission licensing powers granted to municipalities will further enhance this.

Implementation of some Department of Environment Affairs and Tourism (DEAT) policies open the way to co-operative activities with municipalities and local communities (Atkinson, 2005). Local Agenda 21 pilot projects have been run at local level and these offer great potential for mines to participate in engaging stakeholders and planning future environmental management interventions. Metropolitan municipalities' State of Environment Reports can provide strategic guidance to mine plans and mining environmental management plans (EMPs) can be informed (and inform) the municipal EMPs and environmental implementation plans (EIPs) required in terms of the National Environmental Management Act (No. 107 of 1998 – NEMA). Municipalities are well placed to promote community-based natural resource management (CBNRM) programmes, biodiversity projects, recycling projects, and

environmentally-related poverty relief projects that can be linked in with mine environmental and social projects or conducted on unused mining land.

2. Policies and Strategies

2.1 Key National Policy, Regulatory and Strategic Frameworks

Policy

The White Paper of 1998 (DME, 1998) was an important part of the DME's response to changes in South Africa's policy and institutional environment. The impact of these changes on the minerals sector was demonstrated by the Mine Health and Safety Act (29 of 1996 – MHS) which had far-reaching impacts on the sector in the areas of health and safety and human resource development. Other impacts were produced by changes in labour legislation and the introduction of employment equity legislation, as well as the reform of the environmental regulatory system. Globalisation of markets and liberalisation of the economic and political systems in minerals producing countries also contributed to the necessity for the policy review (DME, 1998).

A key component of this strategy, and linking strongly to the Government's broader objective of developmental local government, is the creation of an enabling environment for municipalities to optimise the contribution of the mining sector in promoting Local Economic Development and Integrated Development Planning (DME, 1998). In the White Paper, local authorities were encouraged to use the comparative advantage associated with mining activities within their jurisdictions and to support mutually beneficial partnerships.

The White Paper specifically promotes SSM and beneficiation of mine production as two ways of supporting development and facilitating economic diversification. Research into exploration, mining, processing, beneficiation and environmental conservation and rehabilitation of the environment and to meet the needs of global customers is also promoted.

The White Paper links with other pieces of legislation, such as the Labour Relations Act (66 of 1995 – LRA), for the elimination of racially discriminatory practices at all levels within the mining industry. Through reference to the Mine Health and Safety Act, DME policy emphasises co-operation in the workplace through the establishment of tripartite structures. At mine level, health and safety is promoted by democratic committees consisting of employee and management representatives.

In summary, through the White Paper, the South African Government explicitly stated its intent: *"...in recognition of the responsibility of the State as custodian of the nation's natural resources, [Government] will ensure that the essential development of the country's mineral resources will take place within a framework of sustainable development and in accordance with national environmental policy, norms and standards...The regulatory and promotional activities of Government will be conducted in a transparent and efficient manner in carrying out its brief to manage the development of South Africa's mineral resources, and to regulate the mineral industry to meet national objectives and bring optimum benefit to the nation"* (DME, 1998).

Legislative developments in the minerals sector

The legislation in force for most of the second half of the 20th century was the Mines and Works Act (No. 27 of 1956). This Act had no detailed provisions for environmental management and simply required the fencing of disturbed areas and

the making safe of openings, such as shafts and adits. The passing into force of the Minerals Act (No. 50 of 1991) marked a dramatic change in environmental enforcement in the South African minerals sector. This Act greatly increased environmental management requirements on mines.

South Africa's new constitution (Act No. 108 of 1996) enshrines the concept of SD and gives citizens the right to a non-harmful environment. To give effect to this, new minerals legislation, the MPRDA was drafted. The MPRDA came into force on the first of May 2004 and the provisions of the Act incorporate the principles set out in Section 2 of NEMA (Bostock, 2005). The keystone of these principles is that people and their needs are central to environmental management, which must consider the physical, psychological, developmental, cultural and social interests equitably (Bostock, 2005). For the first time, SD obligations have been linked to mining and prospecting licenses. Closure and environmental responsibilities can no longer be avoided as they are the obligation of authorisation holder/land owner.

The Charter is arguably one of the most important documents to emerge from the South African minerals sector in the 21st Century. It is attendant on the MPRDA, and clearly articulates the determination of the Government to right the historical inequities which characterised the socio-economic systems of the country before 1994. It focuses on the socio-economic upliftment and empowerment of South Africans who were disadvantaged and discriminated against during the Apartheid era and pays particular attention to marginalised groups such as women, the youth and labour-sending communities. Together with the attendant Scorecard, the Charter maps a clear route for the achievement of equity in the minerals sector, sets agreed time-frames, targets and processes for achieving this objective and ensures that the benefits from South Africa's mineral wealth are available to all citizens.

Any mining company wishing to apply for a mining right, or apply for the conversion of an old order right (in terms of Minerals Act) to a mining right in terms of the MPRDA, must, along with the application for such mining rights, submit a Social and Labour Plan. The Social and Labour Plan must incorporate the objectives of the Charter.

The vision of the Charter is *"the creation of a globally competitive mining industry that draws on the human and financial resources of all South Africa's people and offers real benefits to all South Africans. The goal of the empowerment charter is to create an industry that will proudly reflect the promise of a non-racial South Africa"* (Government Gazette, 2004). While the Charter arises from the MPRDA, it also draws on several other pieces of legislation to achieve this goal:

- The Preferential Procurement Framework Act (No. 5 of 2000),
- The Employment Equity Act (No 55 of 1998),
- The Competition Act (No. 89 of 1998) (as well as the Amendment Act No. 35 of 1999) and
- The Skills Development Act (No. 97 of 1998).

In the Charter, Broad-Based Socio-Economic Empowerment is defined as "a social or economic strategy, plan, principle, approach or act, which is aimed at:

- redressing the results of past or present discrimination of historically disadvantaged persons in the minerals and petroleum industry, and
- transforming such industries so as to facilitate ownership, participation in management, development of skills of historically disadvantaged South Africans (HDSAs), participation in the procurement chains of operations and integrated socio-economic development for affected communities.

Frameworks and strategies for implementation

The DME has tasked the parastatals Mintek, the Council for Geoscience and the CSIR with developing a multi-million Rand programme exploring ways of enhancing SD through mining. The Sustainable Development through Mining (SDM) programme is a sector and geographically specific initiative that links with the South African National Strategy for Sustainable Development (NSSD), the African Mining Partnership SD initiatives and with global initiatives. The programme's objective is that: *"by 2010 the South African minerals and petroleum sectors contribute optimally to sustainable development"* (Swart pers. comm., 2005). One of the projects within the SD programme is to harmonise AMP SD Strategy with World Summit on Sustainable Development (WSSD) outcomes.

The DME, through these three large parastatals, is also providing the technical support necessary for developing the emerging small scale mining sector. This is coupled with the Mining Qualifications Authority's (MQA's) mandate to use training levy funds to capacitate professionals within the sector and to increase participation of HDSAs. The MQA Executive Preparation Programme is an example of this: HDSA professionals from a range of disciplines are taken through a four-week accelerated learning programme whereby they are introduced to the various disciplines required to manage and run mining ventures.

2.2 Key International Agreements and Policy Frameworks

International industry initiatives

Mining companies, and other stakeholders in the extractive industries, have become increasingly aware of the need to move the sector towards sustainable development. This led to the formation of the Global Mining Initiative (GMI) by the world's leading mining and metals companies. The GMI provided funding for a global project to assess the contribution of the minerals sector to SD. This was the Mining, Minerals and Sustainable Development (MMSD) project. It formed the basis for the industry's submission at the World Summit on Sustainable Development held in Johannesburg in 2002. Together with subsequent initiatives, such as the World Bank's Extractive Industries Review, this project greatly raised the profile of SD in the minerals sector. Leading mining companies have operationalised the findings of MMSD and other initiatives through the creation of protocols and guidelines. The International Council on Mining and Metals (ICMM) was established to take forward the recommendations of the MMSD project. The DME has responded to these initiatives, particularly the MMSD, through the creation of the Sustainable Development through Mining Programme (see section 3.1).

The World Bank Extractive Industries Review

The Extractive Industries Review (EIR) was launched by the World Bank Group to discuss its future role in the extractive industries with concerned stakeholders. The aim of this independent review was to produce a set of recommendations to guide involvement of the World Bank Group in the oil, gas and mining sectors. The discussion was within the context of the World Bank Group's overall mission of poverty reduction and the promotion of sustainable development. The EIR was critical of mining investments and promoted the Minister of Minerals and Energy to point out that South Africa's minerals sector was already regulated by stringent environmental legislation, that the African Mining Partnership was aware of the need for poverty alleviation, and that the potential for sustainable development to facilitate this (Mining Review Africa, 2005).

The World Summit on Sustainable Development Plan of Implementation

The WSSD Plan of Implementation (the Plan), contains the results of deliberations at the WSSD in 2002² and sets out several key challenges which need to be addressed to realize the goals of the Rio earth summit. There are a number of measures which can be directly related to mining environmental management programmes (EMPs). Paragraph 46 of the Plan specifically refers to the role played by mining, minerals and metals in economic and social development. It recognises that the contribution to SD made by the minerals sector can be enhanced through:

- supporting efforts to address the environmental, economic, health and social impacts and benefits of mining, minerals and metals throughout their life cycle; this includes worker's health and safety,
- enhancing the participation of stakeholders, including local communities and women, so that they play an active role in minerals developments throughout the life cycle, including after closure, and
- fostering sustainable mining practices through the provision of financial, technical and capacity-building support to developing countries, especially for small scale mining and value-added processing.

African Initiatives

Organizations which further the interests of the minerals sector in Africa include the African Mining Partnership (AMP), the African Mining Network and the New Partnership for Africa's Development (NEPAD). The objectives of these organisations are not merely to promote the minerals sector, but also to play a strong lobbying role. Further objectives include the promotion of investment in the minerals sector and the identification and implementation of joint projects for poverty alleviation, economic development and political stability in African countries.

In its Programme of Action, the New Partnership for Africa's Development (NEPAD) expresses the belief that the minerals sector is important in the development of Africa in the 21st century. NEPAD proposes a range of objectives and actions which would result in more efficient extraction, harmonisation of policies, information sharing, beneficiation and skills training. The implementation of these actions would change the perception of Africa as an investment risk.

2.3 Policies, Regulatory and Strategic Frameworks at Provincial and Local Government Level

Municipalities have become the key developmental agencies in post-Apartheid South Africa. Municipalities now cover the entire land surface of the country, they have an elected democratic base and they increasingly function as inter-sectoral development co-ordinators (Atkinson, 2005). Municipalities are responsible for poverty alleviation and, consequently, are required to play an increasingly important role in all aspects of LED, including agriculture, industry, commerce, tourism and mining. Developmental functions are increasingly being devolved to municipalities, with a concomitant impact on the ways that mines conceptualise, plan and implement community development.

Mines are not alone in the facilitation of a transition to SD. All three spheres of government have obligations in this regard and have developed agencies to for this. Provincial governments, for example, are an increasingly strategic level of government. They are responsible for province-wide social and economic planning, and most government social programmes are channelled through this sphere of government (Atkinson, 2005). It is now a requirement that all provincial governments

² See http://www.johannesburgsummit.org/html/documents/summit_docs/2309_planfinal.htm for details.

draft provincial development plans. These are intended to link to local IDPs and mine SD planning should occur within this framework.

Local level IDPs are regarded by government as binding on national and provincial departments and not only on municipalities. Accordingly, Government is placing increasing pressure on national and provincial government departments to co-operate with municipalities in the drafting of IDPs with the clear intention that public spending will only be authorized where such expenditures are provided for in the IDPs (Atkinson, 2005).

In her review of IDPs, Atkinson (2005) found that local authorities plan to promote SD through mining's interaction with their IDPs/SDFs.

- Social services: municipalities need additional clinics and access to mine recreational facilities.
- Housing, Infrastructure and spatial planning: the upgrading of informal settlements coupled with the building of more houses and provision of family housing instead of hostels are areas of potential cooperation with mines. Land use planning and the provision of bulk infrastructure are particularly important areas of collaboration between mines and local authorities. Consultation with provincial governments is key for ensuring synergies with regional spatial planning (especially development corridors).
- Promotion of small-scale mining activities as a poverty alleviation measure.
- Promoting job creation, entrepreneurship, BEE and training within the mining sector.
- Proactive economic diversification and beneficiation in anticipation of mine closure.
- Environmental management concerns include the rehabilitation of old mines, environmental management in mining operations, environmental planning, and environmental health.

In spite of the many areas of potential collaboration, the public participation processes underpinning many IDPs have been inadequate and key local constituencies (such as commerce and mining) have not been included in the debates leading to the drafting of IDPs (Atkinson, 2005). Enhanced participation in IDP processes by mines ensures that developmental issues are addressed from the perspective of the surrounding communities and the government authorities.

Rates and Taxes

With the passing of the Municipal Property Rates Act (No. 6 of 2004), all land became subject to municipal rates. Mines historical exemption from rates may now fall away. This may have the effect of drawing them more closely into the municipal planning process. The new tax burden may mean that national royalties and taxes might be reduced to ensure that the overall tax burden is not increased, but rather the flows are reallocated between national and local government (Atkinson, 2005).

Tensions between spheres of Government

As noted previously, a number of IDPs make reference to small scale mining as a component of local authorities LED strategies. With both small and large scale mining, there is an uneven distribution of authority and impacts. Regulation of mining as an activity is conducted centrally by the DME. The DME is the only body able to withdraw or grant rights. Management of many of the impacts of mining (environmental degradation, social dislocation, infrastructure creation) occurs at local level, resulting in a tension between national and local government. A further tension has been created between National and Provincial spheres of government as DEAT

has delegated many functions to provincial environmental departments. These departments then come in conflict with DME over the environmental implications of granting mining authorisations.

3. Key Challenges and Policy Implications

3.1 Key Challenges from a Sustainability Perspective

To achieve the objectives of sustainable development³, South Africa will need to maximise productive and efficient use of its abundant natural resources while minimising waste and both environmental and social impacts. This will help to break the cycle of poverty in which the majority of South Africans are caught. Social, biophysical, economic and infrastructural benefits and impacts are seldom spatially co-incident, resulting in co-ordination difficulties in implementation (Atkinson, 2005). Physical boundaries (such as watersheds), mine license areas, surface rights areas and servitudes seldom occur within a single municipal jurisdiction. This spatial dilemma is further exacerbated by requirements for mining SD plans to promote job creation, not only in mining towns, but also in labour sending areas which may be hundreds of kilometres distant.

In isolated rural settings, the mining sector can be the one of the first to produce significant economic growth when supported by effective minerals policies and this can lead to poverty alleviation (Mitchell, 2005). Creating the right governance conditions for this to occur remains a significant challenge. Key weaknesses lie in the lack of capacity in public institutions to plan, finance and implement development interventions. These weaknesses are more pronounced at provincial and local level where implementation must occur. Leading mining companies are trying to alleviate some of the capacity shortages through their charitable foundations working at local level, but these interventions are of limited scope. Real leverage lies with effective use of the substantial taxes and royalties paid to central government.

The role of the state cannot be over-emphasised as many of the latter-day impacts arise from unplanned and unforeseen development around large mines. The unforeseen consequence of replacing single sex accommodation on mines with living-out allowances has been to promote the development of sprawling informal settlements at the urban periphery of mining towns. To minimise impacts on the environment and on the communities involved, careful and integrated development planning is essential. Local and Provincial authorities need to be involved in mine planning so that the benefits and impacts of mineral development can be accommodated in their long-term spatial planning frameworks.

The global MMSD project (MMSD, 2002) conducted an extensive examination of the role played mining and minerals in the global transition to sustainable development. Interaction with a wide range of stakeholders, supported by extensive research, isolated some of the critical challenges facing the minerals sector. These are some of the most difficult challenges of any industrial sector. Minerals development are seen by many as an engine of economic development at a national level, while, locally, communities look to the sector to provide employment, infrastructure and skills development to compensate them for the risks and impacts associated with mining. At the same time, mining employees demand a safer and healthier work environment, better community life and post-employment benefits. States and NGOs expect a much higher standard of

³ These are: accelerate economic growth with greater equity and self-reliance, improve the health, income and living conditions of the poor majority, and ensure equitable and sustainable use of the environment and natural resources for the benefit of present and future generations (Hoadley *et al.*, 2001).

performance from the industry and the recognition that ecologically and culturally sensitive areas are effective no-go zones. Investors have complained that the sector has been a net destroyer of capital through the 1990s and now expect higher returns and improved financial results. Consumers expect safe products with managed environmental and social impacts. These conditions can be met (with difficulty) in jurisdictions with representative, capacitated and accountable government. In areas where government capacity is limited, a substantial burden is shifted from the state onto mining companies and a methodology is still to be developed to ensure that abuses (of the company, the community or the government) do not occur. In such jurisdictions, the possibilities of human rights violations are increased due to the vast imbalance in power between local authorities and local communities on one hand and companies on the other.

Current trends towards smaller, highly skilled workforces and out-sourcing of services reduces the extent to which local communities participate in mine-employment. The social upheaval and inequitable distribution of costs and benefits create social tension.

Principal biophysical challenges include managing large volume waste, internalising the costs of acid mine drainage, improving impact assessment and environmental management systems and ensuring effective closure planning. Minerals should be used in an integrated way – companies at different parts of the value chain can benefit from each other by recycling, re-using and re-manufacturing of products and developing integrated programmes of product stewardship and supply chain assurance.

Converting minerals development into sustainable development requires systems of governance to be integrated and holistic. Generally speaking, frameworks to support such integrated systems of governance are lacking. Voluntary codes and guidelines adopted by industry can form part of a stop-gap measure to address this gap. Providers of finance are key players in ensuring that voluntary codes are effectively implemented. Effective stakeholder processes are essential for areas where government is unable to exercise an effective role as regulator.

3.2 Challenges to be Addressed by a Public Policy Framework

The minerals sector has held two mining summits, one in 2000 and another in 2002. These summits were intended to grapple with declining employment, especially in the gold sector, and to provide multi-stakeholder insight into how the sector in general, and the DME in particular, might mitigate the devastating impact of large-scale retrenchment. Current downscaling and closure trends have made ghost towns a looming spectre. Past closures have resulted in the DME spending vast amounts on the rehabilitation of derelict and ownerless mines. An integrated public policy framework is required to address these challenges.

Many minerals developments occur in isolated rural settings. Often, communities in these areas are subject to traditional authority structures, such as that represented by the local chief. The communities also have a democratically elected local authority and mining company driven community development projects may become hostage to political power play between these two vested interests. Traditional structures may inhibit inclusive approaches by the mining company as youth and women may be excluded from participating in projects. This challenge is not only relevant to the minerals sector, but is felt most acutely there due to the isolated, rural location of many deposits.

Policies need to be developed to address the challenges associated with minerals development and traditional, communities, leadership and land tenure. Companies

and local authorities need to interact with these communities to ensure that traditional institutions are not undermined – there is thus a need to promote local consultation and needs assessments. Interacting with traditional structures may be problematic as some communities may have experienced partial modernisation and the authority of the authority of the chief may not be universally accepted. Atkinson (2005) reports that the passing of the Communal Land Rights Act (No. 11 of 2004) will entrench the powers of traditional leaders.

Public policy should effectively integrate and streamline the functioning of the three spheres of government. National Government has centre stage and holds the mandate for minerals development authorisations. Local government is the agency responsible for implementation of development priorities. More attention needs to be directed towards enhancing the role played by provincial governments. These are complex institutions, often characterised by interdepartmental rivalries. They are simultaneously accountable to their own provincial Executive Councils, Provincial Legislatures, and national sectoral departments (Atkinson, 2005). In spite of this, provincial governments wield significant budgetary and spatial authority through a very important and strategic level of decision-making. There have significant budgetary and spatial authority and would be powerful partners in the promotion of SD.

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