The most important five-year review of the Mining Charter’s impact and the progress of the South African mining industry will take place in 2009. The review will allow the industry to ascertain what further steps, if any, need to be taken to achieve the Charter’s targets. The success of the review process will be as important for the mining industry and the country as were the original Mining Charter negotiations. In her address to the 2006 Mining Summit, Minister Buyelwa Sonjica said that she has noted the level of non-compliance associated with some of the rights that were granted to BEE companies and welcomes the 2009 Charter review.

I share the minister’s concern that while the Charter has promoted historically disadvantaged South Africans to own mines and take up managerial positions, only a few individuals have benefited as opposed to the broad-based improvement envisaged. While the Charter has focused the mining industry’s attention on transformation, junior miners have been plagued by problems with the practical implementation of some of the targets and many feel that it was designed with large mining companies in mind. There is a belief that not much thought went into its implications with regard to smaller operations and rather than uplifting operators and their employees in the small-scale sector, the requirements have impeded their progress.

Transformation is one side of the mining equation; another is growth. But as the world’s growing population continues to demand large quantities of minerals, mining companies are forced to explore in ever more remote, underdeveloped and biodiverse areas. This places the world’s biodiversity under threat and has on occasion brought the global mining industry into conflict with local communities and conservation organisations. In a 2003 statement, the members of the International Council for Metals and Mining made a commitment not to mine or explore in World Heritage Sites and to work with major international and national conservation bodies.

Transformation takes many forms one of which is the proposed phasing out of Fanakalo, the language most used in the mining industry as a means of communicating with people from diverse language groups. Unfortunately, Fanakalo prevents economic and social mobility, because its use is restricted to a very limited communication situation. If Fanakalo is phased out one solution is to substitute it with English the other is to encourage and promote multilingualism in the industry.

From now on, transformation will be taking place in an industry that is experiencing a downturn after a few years of rising demand for commodities, a falling dollar/rand exchange rate and rosy economic predictions. The outlook today is uncertain, as the global economy slows into recession and the credit crisis reduces demand for commodities. Even gold, once considered a safe haven during times of economic crisis – has not remained untouched. However, I remain optimistic and believe that the commodities super cycle is far from over.
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2009 Charter review as important as its development phase

by Marilyn Boyd

Our mining sector is far too precious a national asset to have it destabilised by investment community perceptions of uncertainty, duplicity and volatility. In the eyes of the international community we, as South Africans, have an enviable reputation for getting things right through our well-developed processes of negotiation and dispute resolution. The Mining Charter review presents yet another opportunity for us to show the rest of the world that we still possess these laudable talents.

Chamber of Mines of South Africa chief executive Zoli Diliza.
In view of the mining industry’s strategic importance to the South African economy, it was inevitable that this industry became one of the first sectors required to fast-track transformation, driven by the Minerals and Petroleum Resources Development Act 28 of 2002 (MPRDA).

The Broad-Based Socio-Economic Empowerment Charter, approved by Cabinet in 2002 and implemented in May 2004, is intended to guide the industry to meaningful and substantial participation of so-called historically disadvantaged South Africans (HDSAs) in the mining sector. The stated goal of the Charter is to: ‘create an industry that will proudly reflect the promise of a non-racial South Africa’.

Former Chamber president Bobby Godsell hailed the commonly termed Mining Charter as an economic version of the Codesa (Convention for a Democratic South Africa) negotiations that ended apartheid.

In its preamble, the Mining Charter recognises that prior to 1994, blacks, mining communities and women had been largely excluded from participating in the mainstream of the economy. To address this, the industry would in future adopt a proactive strategy of change to foster and encourage black economic empowerment (BEE) and transformation at the tiers of ownership, management, skills development, employment equity, procurement and rural development.

The Mining Charter and its associated Scorecard were created to be vehicles of transformation for the mining industry, intended to make it more representative of the demographics of the country and to ensure a new era of socially responsible mining operations.

The Charter specifies nine areas in which companies must meet black empowerment targets to achieve conversion to new order rights, in compliance with the MPRDA. These are human resources development, employment equity, migrant labour, mine community and rural development, housing and living conditions, procurement, ownership and joint ventures, beneficiation and reporting.

One of the Charter’s key objectives is to achieve 26% ownership of mining companies by previously disadvantaged people by 2014. The Charter has set other targets for 2009, such as 15% ownership of mines by HDSAs, 40% of management positions to be held by HDSAs and 10% participation by women.

Five year review

The five-year review of the Mining Charter’s impact and the progress of the South African mining industry has made looms on the horizon. This date was set at the time of the Charter’s 2004 implementation, when stakeholders agreed to meet five years on, to review Charter-related progress and to determine what further steps, if any, need to be taken to achieve the targets.

Frans Barker, a senior executive at the Chamber of Mines, stresses that the forthcoming exercise should not lead to a revision of the Mining Charter, since it is the product of a statute – the MPRDA. Therefore stakeholders should only review progress against the targets set by the Mining Charter, to compare notes and debate the successes and challenges experienced during its implementation to date.

While Sibongile Kunene of the Directorate: Empowerment Transaction Assessment of the Department of Minerals and Energy (DME), says the department cannot comment on the review process at this point, the Chamber, representing the vast majority of industry employers, and the sector’s three main trade unions have plenty to say about the forthcoming progress evaluation.

Chamber chief executive, Zoli Diliza made this milestone the focus of his address to the September 2008 Mining Summit in Johannesburg.

He said the Chamber was determined to play a thoroughly responsible role in the 2009 review process and, to this end, had appointed an independent consultant to engage its members and establish progress achieved – not only on meeting the 26% ownership target, but the wider range of additional provisions entrenched in the Charter.
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The Chamber’s transformation survey will evaluate beneficiation, black participation in management, women’s involvement in the industry, non-discrimination against foreign migrant labour, rural development, housing standards, employee nutrition, skills development and literacy programmes.

Diliza welcomed the review as a critically important exercise in the light of the fact that most of the main stakeholder representatives who were involved in the original Charter negotiations are no longer in the positions that they occupied at the time.

‘From an industry perspective, we no longer have major players like Con Fauconnier, Bobby Godsell, Rick Menell and Barry Davison,’ he said. ‘Labour has lost both Gwede Mantashe and Geoff Magida. Minister of minerals and energy at the time, Phumzile Mlambo-Ngcuka, has moved on and so have Nchaka Moloi and Abe Mngomezulu from the DME. The same applies to the Department of Trade and Industry’s (DTI) Philisiwe Buthelezi and South African Mining Development Association’s (SAMDA) Paseka Ncholo.

‘These departures represent a serious loss of both expertise and a clear recollection of what structures and instruments were so effectively used to achieve success. There were two distinct structures that combined extremely well to produce the Mining Charter. They were a committee of principals and a negotiating team. The responsibility of the negotiating team was to produce content that was then submitted to the committee of principals for approval.

‘It is my urgent request therefore, that when the time comes next year to conduct the Charter review, we make use of the identical structures that were so successfully employed during the Charter development process. We must have a negotiating team to consider the inputs and recommendations from all stakeholders as well as a committee of principals to give final endorsement to conclusions reached by the negotiators.'
‘The success of the review process would be as important for the mining industry and the country as a whole as was the original Mining Charter gestation procedure,’ he concluded.

‘Confidentiality – the protection of sensitive material – is imperative, or we run the risk of repeating the disastrous events of 2002, when the media obtained a copy of a draft Mining Charter document. It happened on 26 July and within two days the value of mining companies listed on the Johannesburg Securities Exchange declined by a massive R52-billion. So let us never lose sight of the notorious sensitivity of the global investment community.

‘During a successful stakeholder roadshow in 2004, when interactions were held with investors in the United Kingdom, the United States, Australia and Canada, assurances were given that there was no hidden agenda in any of the Charter provisions and that the goal posts would not be shifted. “What you see is what you get”, investors were told by then Minister Mlambo-Ngcuka. Similar protection will have to be entrenched in what emerges from the 2009 review exercise.’

**Specifics**

Focusing on specific areas, Barker says the wording used in the Mining Charter is fairly flexible and has afforded companies scope for innovative and independent approaches to achieving transformation within their own unique organisations and in the communities in which they operate.

‘On the flip side of that, however, is the possibility that some mining companies might have been using this flexibility as an excuse for not fully meeting their targets, claiming there was insufficient clarity and direction,’ he says.

Far less flexible is the associated Scorecard, an adjunct to the Charter, providing a framework to measure the BEE process in the mining sector. The Scorecard has some core elements, including: direct empowerment through ownership and control of enterprises and assets, human resource development and employment equity and indirect empowerment through preferential procurement and enterprise development.

‘The Scorecard measures the actual implementation of the Charter and as such, requires companies to tick off each box, so to speak,’ Barker says. ‘Compared to the DTI’s Broad-Based Black Economic Empowerement Codes of Good Practice (BEE Codes), the Charter Scorecard has limited scope for trade-offs.’

Some industry players believe that the Mining Charter should be more closely aligned with the DTI’s BEE Codes; others believe however, that because of the extensive negotiations that led to the creation of the Mining Charter and Scorecard, these instruments should remain separate from the BEE Codes.

Also commenting on the Charter review, Chamber of Mines’ legal adviser, Anton van Achterbergh, questions why government is trying to pass onto the mining sector some of its constitutional obligations as a condition for being granted rights under the MPRDA.

‘For example, provision of basic education, including adult basic education and of access to housing are the government’s constitutional responsibility,’ he explains. ‘If the mining industry is expected to put time and money into these areas, it should be as a result of collective bargaining or government should be looking at offering fiscal incentives to achieve social transformation, instead of threatening ownership rights for not providing these initiatives. So, if during the Charter review it is found that some companies are falling short in these areas, the proper solution should be tax incentives.

‘Similarly, the onus for community development should not be placed at the door of the mining industry,’ says Van Achterbergh. ‘This is a primary responsibility of government. Mining companies should be given an option to become involved and proper fiscal incentives to do so should be provided. Yes, our industry is aware of its responsibilities to the communities in which it operates, but this is an area of the
Charter where many mining companies have come unstuck – many just don't have the capacity to focus on community development. Mining companies cannot be expected to run towns – this is the responsibility of local authorities. Yet many of these authorities are failing in this area as a result of lack of skills and funds.

‘We believe that true transformation of South African communities can only be achieved with strong partnerships between our industry, national and local government. At present, it appears that, particularly local government, is all but abdicating its responsibilities in this arena.

‘We also question where the proposed Royalty Tax funds will end up. Some of this money should be earmarked for community development. This kind of funding could make an enormous difference to community transformation.’

Commenting on the Charter’s target of 10% participation by women by 2009 target, Barker says creative thinking will be required by all stakeholders to assess the role of women in the mining industry.

‘Deep-level mining is not an ideal environment for the female physiology and there is definitely a need to find alternative ways to look at the role of women in our industry.’

On the issue of ownership, he suggests that mining companies have been obliged to put tremendous effort into ownership transformation initiatives.

‘This is a controversial and difficult Charter target,’ Barker says. ‘There has been tremendous progress in this area, but possibly to the detriment of the other elements. While employee share ownership plans (ESOPs) have successfully spread a lot of benefit to HDSAs, the unexpectedly high rate of trading in mining shares is defeating the original intention of this element, which is the creation of black owners – not traders. A problematic spin-off of this share trading is that, depending on the current share ownership of a company at any particular time, compliance with the Charter may vary and fall short.

‘It’s this kind of complexity that scares off investors.’

In her address to the 2006 Mining Summit, minister of minerals and energy, Buyelwa Sonjica, raised this issue, saying: ‘Although BEE appears to be up and running and making inroads into the South African mining industry, we have noted with concern the level of non-compliance associated with some of the rights that were granted to BEE companies.

‘Fronting, as well as shady dealings or trading of these rights, have been observed and I must caution individuals involved in these transactions that our department will not hesitate to take appropriate action against such individuals where such is called for. We will not tolerate individuals and companies seeking to undermine our transformation programme in the interests of personal gain.’

The minister again put this issue in the spotlight at the 2008 Mining Summit, saying that BEE fronting was defeating the very purpose for which the Mining Charter had been created.

‘I am particularly concerned about the large number of Section 11 applications my department is receiving, particularly from BEE holders of permits or rights,’ she said. (Section 11 applications cover transfer of interest in mining and prospecting rights.)

‘The Charter is intended to introduce effective participation of historically disadvantaged South Africans and not traders of mining rights.

Unions

Mining companies might be proud of their compliance with the Mining Charter and the significant transformation they have achieved, but the National Union of Mineworkers (NUM) has expressed the opinion that more needs to be done and that many mining companies are not in compliance with the Mining Charter and Scorecard.

The NUM’s Ecliff Tantsi says his union willingly recognises the successes achieved
through the Mining Charter: the awareness of the need for transformation and social investment by mining companies, the growing number of women entering the industry, the sporadic but steady increase in the number of black owned mines and the ESOPs that have given hope to thousands of workers.

However, Tantsi enumerates an even longer list of challenges and failures relating to the Charter's requirements.

‘The overall percentage of women currently engaged in the industry is 6.9% – far short of the 10% target set for 2009,’ he says. ‘Most black female workers are operators, while white women are placed in managerial positions. This means that many black women are forced to work shifts and face the challenges and dangers of finding transport home when they finish late at night.

‘Racism is still rife in the mining industry, resulting in black managers leaving the industry in numbers. Too many black mine workers are still confined in single sex hostels, while white workers either own houses or are financially able to rent decent accommodation. To date, the management structure in the mining sector reflects more than 60% of the same faces in racial demographic terms as those we saw in the 1980s. This means the mining sector has not moved beyond the racially defined managerial composition in accordance with the current democratic developments.

‘There is still a high level of workers who cannot read and write – 24% of the total workforce of more than 400 000 workers in the mining and minerals sector have very little or no schooling at all. Another 40% have schooling that falls below grade nine and only 29% have schooling at matric level. Disturbingly, the education profile of mineworkers has not changed markedly in the last eight years.'
'As for ESOPs, only a small number of companies have implemented these schemes. In addition, the vesting period of many of the ESOPs is too short and not in line with the life spans of mining licenses.'

Tantsi also lists areas that NUM believes will not meet transformation targets by 2009: 40% of junior and senior management positions to be held by HDSAs, community development – specifically the conversion of hostels into family units – and the reversal of skills shortages.

'Have mining employers generally met Charter targets? The answer is an emphatic ‘No’,' says Tantsi.

Speaking on behalf of UASA, Franz Stehring says the Charter has achieved the most success to date in the area of ownership and joint ventures. 'What is most important is the fact that it has brought about a collaborated effort between labour and employers in terms of ESOPS,' he says.

Yet Stehring says the industry is failing in the area of beneficiation: 'One only has to travel to the rural areas to see the contrast between the modern, hi-tech mines and the poverty rife within their local communities.

'In terms of human resources development, the industry will simply not be able to meet the Charter targets,' he continues. 'South Africa is experiencing a desperate skills shortage, not only of artisans, but also on the production side. The institution that must carry the blame for this is government, which cut state subsidised training 20 years ago. Mining industry employers compounded the problem by training only to meet their specific needs and not addressing the fundamental training shortages of industry in general. This in turn has contributed to the industry's poor safety record.

'It is also of concern that the Charter does not directly address safety as an issue in its own right.'

Stehring does not believe that the Charter has yet achieved the degree of transformation that UASA envisions for its members.

'Only a handful of companies – such as AngloGold Ashanti and Gold Fields – are reporting their compliance on the Charter website. All companies should report on the same website, so that a compliance comparison can be drawn between the different commodities and mining houses.

'In light of their failure to meet Charter targets to date, mining companies should not be surprised if a more regulated process is proposed, or even demanded, by organised labour. All industry stakeholders need to walk the talk.'

Solidarity's Jaco Kleynhans says his union is excited about the empowerment that is happening through ESOPs.

'AngloGold Ashanti was the first company to let workers who did not already belong to share schemes, qualify to own shares,' he says. 'ESOPs have also been implemented at Kumba, which now comprises Exxaro and Kumba Iron Ore, Anglo Platinum, Impala Platinum, Northam Platinum, De Beers, Anglo Coal, Samancor Chrome and Sasol.

'ESOPs have a time-span of five to 10 years, thus enabling a long-term investment by workers in their companies. Through ESOPs, workers and employers can share a common prosperity. ESOPs create a win-win situation for both company and worker and Solidarity believes that the time has come for smaller mining companies to start with empowerment through ESOPs.

'We're also passionate about training. We still believe that not enough empowerment is taking place through training. Many mining accidents can be attributed to a lack of training. Without knowledge and experience it is much more difficult to empower people.

'We strongly believe that transformation and empowerment must never take place to the disadvantage of some employees. All employees must be partners in a process of empowerment.'
Charter requirements overwhelm small-scale miners

by Marilyn Boyd

The South African mining industry’s compliance with the Broad-Based Socio-Economic Empowerment Charter will come under the spotlight in 2009, as industry stakeholders – government, employers and unions – review progress against the Charter’s transformation milestones.
While the industry’s larger and more established mining companies can boast a spectrum of successes across the board and point to challenges and obstacles to meeting other targets, how do the smaller mining companies – the junior miners – measure up?

Chamber of Mines senior executive, Frans Barker, says the problems facing the larger companies in achieving the Charter’s transformation targets are greatly magnified for the junior mining companies.

‘One of the most challenging Charter targets for junior miners to attain has been that of ownership – one of the central pillars of transformation,’ he says. ‘When the owner of a company is also the manager and operations director, actually running the operation on a day-to-day basis, the issue of ownership becomes a complicated one.

‘Community development is another tricky issue among junior miners, many of which are simply too small to launch meaningful initiatives. The obvious solution would be to team up with other juniors to introduce joint initiatives, but there is currently no ruling on whether or not this would be regarded as compliance by the individual companies.

‘Even so, some juniors have approached Teba Development, a not-for-profit (Section 21 Company) non-governmental organisation (NGO), to put together community development projects on their behalf. Teba Development’s stated purpose is to play a leading role in a collective endeavour to improve living conditions and livelihoods of communities that have provided labour to the mining industry for decades. In my opinion, however, this route to compliance is too holistic and artificial to allow individual mining companies to claim compliance through its programmes.

‘While there’s no question that the Charter has focused the entire mining industry’s attention on transformation, in many cases – junior miners being a prime example – the practical implementation has encountered a
ANGLO PLATINUM

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variety of unforeseen obstacles.

‘The Chamber therefore welcomes the 2009 review of the Charter, when government, employers and unions will look at progress against the targets and debate the successes and challenges experienced during its implementation to date.

‘Mining is far from being a sunset industry, so we will press forward, continuing with the transformation initiatives that have worked well and going back to the drawing board to come up with new and creative ways to address the areas where we are falling short.

‘There’s no doubt that until acceptable economic and social standards dictate the make-up of South African society, we will need vehicles like the Mining Charter to guide us.’

Unsustainable small operations

President of the South African Diamond Producers Association (SADPO), Matie Lotter, says a great deal can be said about meeting Charter targets from the point of view of the small miner.

‘I believe the Charter, as with the Minerals and Petroleum Resources Development Act (MPRDA), was designed with the bigger mines in mind. Not much thought went into its implications with regard to smaller operations. I also believe that the way officials use their discretion in applying the Charter requirements to small mines is erratic and, in many cases, counter-productive. Many do not possess the necessary skills to apply the Charter in such a way as to promote small-scale mining.

‘One of the biggest challenges we face is to define small-scale mining: what it represents, what it offers to the economy and how it operates.

‘Looking at any other regulatory framework, there are definite guidelines focusing on small-scale operations. For instance, the Employment Equity Act and the Department of Trade and Industry’s Codes of Good Practice – they all define small-scale operations. In the mining industry we have a Charter and, although the MPRDA recognises small-scale mining in Section 27, there is no further reference to determining which operations fall into the category of small-scale mining. Because there is no real definition of small-scale mining, officials have had to use their own individual discretion when applying the Charter to these operations.’

Lotter relates that at a recent workshop in Kimberley, the Department of Minerals and Energy (DME) defined small-scale mining as being operations with fewer than 50 employees and a turnover of less than R50-million per annum.

‘In terms of this definition, with its economies of scale, small-scale mining can be economically sustainable, creating jobs, boosting economic growth and, most important, creating a bridge for new entrants into the mining environment,’ he says.

‘But if we apply this definition to the MPRDA, it is not sustainable. Section 27 prescribes that such an operation can only operate on 1.5 ha, with a lifespan of two years, renewable only three times for one year at a time. These rigid limitations render a mining operation unsustainable, as financing of a two-year business plan is simply not viable.

‘So the upshot is that operations that fall into the DME’s definition of small-scale mining apply for mining rights in terms of the MPRDA, and find themselves effectively elevated into the same league as giants such as Anglo American and BHP Billiton. With the extra burden of compliance, small operations become unsustainable, with a negative knock-on effect of economic loss, job loss and doubtful investors. Even with the amendments to the MPRDA, these issues remain the same.’

Lotter says that in terms of junior miners the area where the Charter is enjoying the most success is black economic empowerment (BEE), without which licenses cannot be obtained. But it is failing new entrants into the junior sector. These would-be entrants cannot comply fully with the Charter’s requirements, either failing in their license applications or
eventually having to sell their rights or enter into agreements with other stakeholders, to their detriment.

‘Juniors also find it particularly difficult to launch and sustain a social or labour initiative to completion and this is where the discretion of officials often fails to bring value to our fraternity.

‘These initiatives require huge input if they are to achieve maximum success. Small-scale miners are damned if they do and damned if they don’t: they don’t have the resources to run these initiatives on their own, but they are not allowed to do so collectively.

‘In recent applications, officials have demanded a specific, fixed amount of funding to be allocated to social and labour programmes. This is an actual amount, not a percentage, and we believe it should form part of production costs and should be financed externally if operations are unable to generate it from production.

‘In general, I believe the Charter has achieved success from the perspective of the mining sector as a whole. But in terms of the small mining sector, it has definitely been unsuccessful. Since its introduction, the small mining sector has experienced a negative growth rate and there are very few successful newcomers to the industry.

‘If our sector is to add value to the country, small-scale mining must be defined formally, leaving no room for misinterpretation. The next step would be to design a separate Charter, specific to small-scale mining. It need not be as comprehensive as the existing Charter, but at least it should provide more direct guidelines on sustainability and address the discretion of officials.’

Not talking the same language

Nico Pienaar, director of the Aggregate and Sand Producers’ Association of Southern Africa (ASPASA) – a voluntary non-profit body representing the interests of commercial aggregate producers – and of the South African Readymix Association (SARMA), says that when the Charter was on the drawing board, his sector was led to understand that the guidelines and targets would focus almost entirely on the medium to large mining operations and not on the small-scale operations.
‘Once the Charter was implemented however, things changed and the smaller operators suddenly found themselves being pressurised to meet the 26% black ownership target,’ he says. ‘Originally the figure for the first five years was not 26%, but officials just ignored the ramp-up period and demanded the 26% of those small-scale miners who were still trying to get their houses in order.

‘Another consequence was the unprecedented upsurge in the number of applicants wishing to enter the industry. When evaluating these applications, ASPASA found that almost all of them had been submitted by individuals who had nothing to bring to the table in terms of finances or experience. Clearly they were looking for government handouts.

‘Many of the smaller operations have made an effort to enter into some form of empowerment deal, but most have run into trouble in the process. Even though banks and other bodies supported these attempts, it wasn’t long before many of the deals fell flat, resulting in a lot of money wasted and more than one case of individuals disappearing with funds that didn’t belong to them.

‘Then there were the cases where individuals approached small operators with promises of having contacts higher up or of knowing somebody influential who would be able to organise a license. In return for these services, they required a cut of the business. Many of these questionable deals also fell flat.

‘Another aggravating factor has been the demands of small-scale company personnel for real money and not just shares.’

Pienaar says social and labour planning in the small-scale sector has been nothing short of disastrous, as officials are not clear about what is required and many communities regard these plans as access to free money.

‘Officials are not finalising plans and, by the time they manage to get a grip on what is going
on, the requirements have changed, again leaving the employer in the dark,’ he says. ‘Small-scale operators, communities and officials are not talking the same language and there is very little co-operation, leaving the employer out in the cold.

‘As a result, few positive outcomes have followed the introduction of the Mining Charter in our sector. Its authors may have had the best intentions, but instead of uplifting operators and their employees, the Charter’s requirements have significantly impeded the progress of small-scale companies.

‘At the end of the day, what we’re seeing now is a great number of illegal miners moving into our sector. Regulators have failed to regulate the industry and operators are battling to find a sustainable way forward for their businesses.

‘We therefore call on government to consult specifically with small-scale miners with a view to developing a system that accommodates our unique business environment.’

How to bake a bigger cake

Pamodzi Gold is a Johannesburg Securities Exchange listed South African junior gold mining company with assets in the Witwatersrand gold basin in South Africa. Chief executive officer Peter Steenkamp feels that the most notable Charter failure has been in the area of beneficiation.

‘It hasn’t been feasible to do downstream beneficiation either, especially for small companies,’ he says. ‘The skills required are vastly different from those of mining and not readily available. There is simply no way that small-scale gold miners will get involved in a field in which they have no expertise or appetite.

‘There has also been little success with regard to human resource development. Although the targets set are noble, the execution has not only been costly, but also impractical, because the current mature workforce has been largely unwilling to enroll for the adult basic education and training (ABET) courses.

‘On the plus side, the Charter has certainly promoted historically disadvantaged South Africans to own mines and fast tracked many into managerial positions. The benefits of ownership, however, seem to have ended up in the hands of a few individuals and are certainly not as broad based as envisaged in 2004.

‘The Charter has also failed to stimulate growth in the gold sector. This is partly attributable to the prevailing low gold price in South Africa, but it is also a consequence of the major companies securing resources without a definite plan to mine them.

‘I certainly believe a review of the Charter and its objectives is needed and I welcome the 2009 review date. The focus, however, should be on growth in the sector. What we need is a think tank on how we can bake a bigger cake, rather on how we should divide the cake.

* Junior mining initiative SAMDA, the South African Mining Development Association, declined the invitation to submit comment for this article.
Bears for now, bulls to come

by Danette Breitenbach

Over the last few years, stoked by rising demand, a falling dollar and rosy economic predictions, commodities prices soared and up to the middle of 2008 the commodities sector was enjoying strong performance. However the outlook today is more uncertain, as the global economy slows into recession and the credit crisis reduces demand for commodities.

Base metals, coal and iron ore forecasts are being cut dramatically world wide. The investment bank, Macquarie has cut commodities forecasts for 2009 by up to 60%. The past two months have seen mining and energy stocks being hammered as fears of a global recession gain momentum.

It is not just the economic research houses and banks that have been predicting a commodities downturn, but also the world’s biggest miner, BHP Billiton (BHP). The giant warned that despite China having driven a boom in commodities in recent years, its demand for minerals was set to weaken.

This follows a number of other major miners, such as Rio Tinto, which also warn that commodity demand in China, the world’s largest consumer of iron ore, is under threat. China itself has stated
that the global market will be in surplus in 2009 – a year earlier than expected, and will be brought about by slower economic growth and fewer orders from steelmakers. Chinese steelmakers have lowered production as orders from builders and car makers decline and economic growth slows.

For the first time in seven years there is a decline in the production of steel driven by the risk of a global recession. However a worldwide economic investment house has said that regardless of whether or not the United States slips into a recession, investors need to prepare themselves for slower global growth and to reduce investment in commodities.

**Platinum margins in trouble**

Economist Dawie Roodt says three main factors influencing commodities in South Africa: falling commodity prices, a sharp decline in demand and escalating costs, such as wages. All of which increase the cost of mining. Take platinum, for example, its market price has gone from $2 000, not so long ago, to $850 at the
moment. Now consider that platinum mines, the ones I have been talking to, say that they need to have a platinum price of $1,200 to break even. While they could cut costs, $850 is not a high enough return.

Oversupply

While the outlook for platinum group metals (pgms), was good in 2008 – especially platinum and rhodium, in November there were warnings of oversupply, following the decline of the platinum dollar price from $2,200 to $920 (58%). This despite expectations that South African producers would experience operating problems that would push up the cost of pgm production.

RBC Capital Markets and JP Morgan also predict that there could be an oversupply of platinum. The former says this could be as much as one million ounces of platinum during 2009, while JP Morgan’s analysts forecast a surplus of about 750,000 ounces. Both believe that while platinum supply will increase, pgm demand from the automotive industry will fall.

With South African producers battle to cut back on loss making production, they are unable to respond quickly to current market conditions. RBC Capital Markets believes that mine closures and production cutbacks will be necessary, but will only occur deep into 2009 once big losses have been experienced.

While falling commodity prices saw South African platinum producers incur heavy losses, the drop in metal prices has affected companies around the world. The Australian stock exchange stated in November that disclosures to the stock exchange showed long-established mine sites were suffering from low global metal prices. For example net profits of Philex Mining Corporation slid by more than a quarter to P1.068 billion in July to September owing to the drop in metal prices.

China cutting back

BHP Billiton faces a $600-million loss of sales in its iron ore business in the second half of 2008. According to the company, credit issues led some steel mills in China to ask for shipments to be deferred, reducing the company’s iron ore sales by six million tons by the end of 2008.

Brazilian mining company MMX has said it will cut iron ore production by 30% because of falling global demand, while Vale, the world’s largest iron ore producer has cut production by 9% this year in an attempt to reduce costs.

While a collapse in the iron ore market is unlikely, the price outlook has become more gloomy. According to Alexander Molyneux, head of Asian metals and mining for Citigroup, the 2009 contract year will experience a moderate 20% price drop, while other analysts predict a 40% decline. Rio Tinto has already cut 10% of its iron ore production from the Pilbara region in Australia to between 170 million and 175 million tons for 2008.

Both BHP and Rio Tinto are confident that Chinese iron ore demand will bounce back in 2009 and that the country will still be a major driving force for demand for commodities such as iron ore, aluminium, coal and nickel.

The stock market prices of Rio Tinto and BHP have fallen in Sydney trading. Rio Tinto by 15% and BHP by 9.4%. Prices of hot-rolled coil, a benchmark steel product, have fallen by 39%. Talks between Chinese steelmakers and the three big iron ore producers (Vale, Rio Tinto and BHP) on 2009 contract prices are expected to be very difficult, and may not be set on an annual basis, but reviewed quarterly.

According to the International Stainless Steel Forum, global crude steel production decreased in the first half of 2008 by 1.8% compared with the previous year. Stainless steel production fell by 1.5% to 8.3 million tons in the first half of 2008 in Asia as stainless steel producing countries (except China) reduced their production.

Decrease in production

The slowing steel market led Xstrata to cut its production by 500,000 tons, suspending six furnaces as the steel market slows. South Africa
SCAW

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is the largest supplier of ferrochrome and Xstrata the world's largest producer.

Peet Nienaber, Xstrata Alloys chief executive, comments: 'As the global market leader in ferrochrome, Xstrata and Merafe are acting responsibly and decisively to cut back production during a period of short-term demand weakness.

'This underlines the Xstrata-Merafe chrome venture's operational flexibility, which enables us to scale back production and optimise unit costs, while redeploying employees within the organisation. We will continue to respond promptly to market conditions as necessary.'

African Rainbow Minerals (ARM), another producer, announced recently that it would suspend two furnaces because of the state of the market. Samancor and Hernic have followed suit, reducing output by half and 40% respectively from the end of 2008.

Other steel input materials such as nickel and coking coal have had price decreases of 30% since September. It is feared that with stainless steel cutbacks, prices will be even lower for the first quarter of 2009.

The drop in steel production has reduced the demand for coal and the thermal coal price forecast was lowered by 38% to $105/t free-on-board and the hard coking coal estimate was slashed by 60% to $140, leading global steel giants such as ArcelorMittal and Corus to consider drastic output reduction plans.

The copper price has declined by about 50% and nickel and zinc have also had their price slashed since September. Many Australian zinc producers have either sustained losses because of the price drops or have plans to decrease production.

Xstrata is one such company and has halted production for at least four months at a nickel project in the Dominican Republic as the current nickel price makes the mine unprofitable. Xstrata and Teck Cominco Limited of Canada closed their jointly owned Australian zinc and lead mine in the middle of 2008, several years ahead of schedule. The reason: the project didn’t make economic sense at current prices. With at least another three mining companies following suit, analysts believe more will follow.

**Gold is no longer a safe hedge**

Even gold – considered a safe investment during times of economic crisis – has not remained untouched. In mid-November its price dropped and has been struggling to sustain an upward trend since hitting a two-month high of $931 in early October and remains well below the all-time high of $1 030.80 reached in March. Lower oil and volatile equity markets have also put pressure on gold.

As weaker commodity prices and higher costs start to take their toll on the global mining industry, the billions of dollars being spent on new projects could take years to recoup. One casualty is BHP's Ravensthorpe – an Australian nickel project that was supposed to be a big money spinner, but has since become unprofitable because of low nickel prices and increasing mine operating costs.

**New projects suffering**

New developments are no better off as, according to Credit Suisse, the credit crisis is delaying the mining sector's capital expenditure for new or expanded projects, with up to $50-billion of the $75-billion scheduled for 2009 likely to be deferred for at least a year. This could then delay a further $150-billion scheduled between 2010 and 2012.

As metal and mineral prices spiral downwards, project price escalation, cost over-runs and insufficient technical capacity are threatening to further reduce the attractiveness of new capital projects. According to SRK Consulting director Roger Dixon, developers and investors now face a range of factors that conspire to undermine the success of their projects, calling for even higher standards of engineering, planning and execution.
‘Volatility in commodity prices, fluctuating exchange rates, lack of infrastructural capacity and inflation all contribute to making feasibility studies more difficult and project implementation more risky,’ he says.

One of the outcomes of this uncertain environment is the disturbing regularity of rampant escalation and over-runs in the sector, says Dixon. At the Mmamabula energy project in Botswana, for example, development cost forecasts have rocketed from $6-billion two years ago to $16-billion today – based on rising construction, equipment and project management costs.

There are several South African projects where production forecasts have been drastically revised. High levels of uncertainty make it difficult for project backers and they have raised questions about the way that the feasibility studies are being conducted, says Dixon. This heightens the risks and tarnishes the reputations of all concerned, with the prospect of litigation now a real possibility.

In 2007, for example, a capex blow-out doubled the estimated project cost of Canadian junior NovaGold Resources’ Galore Creek project, and led shareholders to file a class action against the company. Cost projections had inflated from $2.2-billion to $5-billion.

Rising costs and disappearing margins

The turnaround in the fortunes of the global industry highlights the soaring costs that it has faced since 2007. In a report released by PricewaterhouseCoopers (PWC) the revenues of the top 40 mining companies grew by 32% in

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2007, while costs increased by 38%. The decrease in margins reflect the cost increases, 2007 was still a good year, however since then demand has waned while costs have continued to increase. Analysts say that the result is that newer and higher cost mines coming online are likely to struggle to deliver returns – even if demand for commodities rises in the near future.

The fact is that, in recent years, regardless of the credit crisis, the economics of mining have shifted drastically. Costs, such as the energy to run mines and mining equipment, such as trucks, and building materials, have skyrocketed.

In its 2008 commodities outlook, Lehman Brothers said it expected mining costs to rise by at least 5% on average in 2008 as a result of persistent supply-side constraints. In South Africa these constraints, combined with rising labour costs and power difficulties, have led to smaller margins. Unfavourable exchange rates only serve to squeeze these margins even further.

Take the country’s gold mining companies. In the first quarter 2007, Harmony had a total cost of production of $516/oz. Gold Fields and Anglogold Ashanti’s production costs were around $450/oz. The average cost of mining an ounce of gold in South Africa is $389/oz (based on research by JP Morgan), which means that these three companies cost are very high.

Although equipment and fuel costs have increased, labour comprises 60% of total on-mine costs. It is also not just South African producers that are experiencing increased cost, since 2004, United States gold mining costs have increased by 44%.

As commodity prices rise, customers are finding ways to cut back on consumption. One way is raw-material substitution, such as plastic pipe in place of copper. In fact some stainless-steel producers are turning to nickel pig iron made from low-grade mineral ores.

Michael Lewis, the global head of commodities research at Deutsche Bank, is not optimistic about the outlook for industrial materials and energy.

However, delegates at the October 2008 London Metal Exchange Metals Seminar in London, report that while expecting metals to be under pressure in the short term, they are optimistic about the long-term future.

Supporting this optimism are factors such as China’s retail activity, which is up by 23% so far this year while exports are still up by 22% on 2007, fixed asset investment growth may top 25% for the sixth consecutive year, interest rates have fallen twice, reserve requirements are in decline and China’s intention to spend vast amounts to repair damage caused by winter storms and earthquakes.

This, combined with the opinion that other developing world economies will revert to pre-economic credit crisis levels of being major metals consumers once the current recession passes and that the developed world will grow later in 2009 and the fact that prices for most commodities are still above levels of a few years ago means that the international commodities boom is far from over.

Mining houses are still making profits – BHP recently reported annual earnings of $15.4-billion, up nearly 15% on its previous financial year.

Some analysts still optimistic

Commentators Molyneux and Dawie Roodt agree that the crisis will not last beyond 12 to 18 months. Peter Beaven global president of manganese at BHP, who in late 2007 on the World At Six business radio show, said that while the commodity prices will remain volatile, the bull run is not over yet.

‘The concern that the commodities bull run has come to an end is not a real story, there is obviously some degree of volatility in the market, but the physical supply and physical demand will rule the commodity prices,’ he says.

Many South Africans share this sentiment and believe that the commodities super cycle is not over.
The catch 22 of the 21st century

by Danette Breitenbach

In October the world’s largest bulldozer and excavator manufacturer, Caterpillar Incorporated, announced that its third-quarter profit fell 6.4%, despite sales being up 13%. The reason: material costs had pushed up its manufacturing costs by $442-million, even with price increases of about $385-million. The company is planning to increase prices by a further 5% to 7% at the beginning of 2009. This is bad news for the users of this type of equipment, such as the mining sector.

The reason for the increase is the rising cost of raw materials, for example hot-rolled steel sheet, reached a record $1 068 a ton in July and has averaged above the $1 000 mark for the past quarter, which is more than twice its price only a year ago.

In an interview with Bloomberg, Caterpillar’s chief financial officer, Dave Burritt said: ‘Growth will hit a bump as a result of the recession, but it's not going to stop the world’s need for infrastructure. There will be a similar amount of pressure in the fourth quarter from costs – material costs don’t change overnight, but the trends are down.’

Rising costs are a catch 22 for both the manufacturers and the users. Users, who are often the producers of the raw materials the equipment manufacturers need, are not only battling high equipment costs, but also a global shortage of capital equipment. Caterpillar, for example, has a three-year backlog of orders for mining trucks over 100 tons in the Middle East and Asia. And at a time when many mining companies world-wide are replacing aging fleets, Caterpillar has had to let a number of workers go at its plants in the United Kingdom, the United States and France.
Rio Tinto has joined forces with Swedish industrial company, Atlas Copco and multinational American technology and services conglomerate, General Electric (GE) to develop automated drilling and energy efficient mining proposals. According to Rio Tinto chief executive, Tom Albanese: ‘This development will allow for more efficient operations, delivering more tons, faster, with reduced carbon emissions, low costs and a safer working environment.’

Atlas Copco and Rio Tinto are focusing their joint efforts on surface mining and are working together to create safer and more efficient operations through the development of autonomous drilling solutions.

On the Rio Tinto and GE front, the two international giants have formed an alliance to develop energy efficient and ecologically friendly proposals for future mining operations through two key strategic technology projects: Rio Tinto’s ‘Mine of the Future’ and GE’s ‘Ecomagination’.

The ‘Mine of the Future’ project involves a number of aspects and include plans for driverless trains to carry iron ore on most of the 1300 km of track in Western Australia, a driverless ‘intelligent’ truck fleet for Rio Tinto’s Australian mines and a Remote Operations Centre for the Pilbara mine operations at a new centre in Perth.

Closer to home, Coaltech, a collaborative research initiative between the mining industry, the Council for Scientific and Industrial Research (CSIR), government and institutions of higher learning, is investigating various equipment options that will assist coal mines to reduce costs.

In 2007, Coaltech was in the final stages of developing an in-seam exploration tool. It is also investigating equipment from China. Coaltech manager, Johann Beukes, explains: ‘Cost is a major factor in the coal industry. Currently a machine bought from a supplier costs $1.6-million (around R12-million), while a similar Chinese machine will cost half of that. We have been to the workshops in China and they are excellent.’

However, while the price is right, the equipment is not completely suitable for the harsh South African mining conditions. Following a visit to China, a machine was brought to South Africa and tested for six months at Sasol.

‘The machine was not suitable as it was too light and did not have the power to cut our hard stone. However we drew up a list of what we needed and the Chinese modified the machine accordingly. Exxaro and Eskom paid for the machine and it is being tested at Arnot Colliery. If the tests are positive then we will look at using this machine – which has a vibrating head – more extensively in the industry,’ says Beukes.

More recently the Coaltech team again visited China, this time to investigate a continuous miner. The team is talking to a company about an existing machine that could be modified to suit South African conditions.

Pilot Crushtec, a South African company, is also working to assist the industry to cut its costs in terms of equipment. While recycling is required by legislation in Europe and the United Kingdom, in South Africa it is still in its infancy. More recently Pilot Crushtec, which has experience and expertise in recycling applications, has been experiencing a renewed demand for recycling.

Sales director of Pilot Crushtec, Graham Kleinhans, says: ‘Soaring costs have made it essential for recycling to curb rising prices. For example two of our machines, the BRO605 and TMO605, reduce rock and rubble to a re-usable and saleable product. The new approach has to do with saleability, extending the life of mine, doing away with dumping costs and helping with the costs of rehabilitation – everything converted to a 100% saleable product.’

Another South African company, Bell Equipment, which manufacturers mining and construction equipment, announced a record interim profit of R267-million in August. Revenue in the six months to June was up 35% to R2.8-billion, compared with the same period the previous year: Exports made up 54.2% of
turnover, with the balance from South Africa. Demand for equipment came from the buoyant mining and construction industries that raised the company’s profits, which were also boosted by the weakening of the rand against the euro. Bell said that robust activity in the mining industry, fuelled by sustained high commodity prices and the roll-out of the government’s multibillion-rand infrastructure expansion programme, are buoying the demand for Bell trucks.

The South African Compact Equipment Export Council (SACEEC) reports that capital equipment exports were seeing a growth of 18% a year, with 2008 outperforming previous years.

At that time the managing director of SACEEC, Sybil Rhomberg, said: ‘South African exporters are extremely flexible, and our delivery times are good. We make very robust machinery, and the technology used in the manufacture of capital equipment by South African companies is on a par with the best in the world. The industry is doing extremely well, and is working at almost full capacity, considering the electricity crisis and limitations to multishift.’

In 2008, the country’s premier mining exhibition, Electra Mining Africa, which took place early in September, also proved that South Africa’s capital equipment sector was doing well as it was sold out six months before the actual exhibition.

It attracted delegates from Canada, Australia, Italy, the United Kingdom, Botswana, Brazil, Croatia, Finland, Germany, India, China, Poland, Sweden, Switzerland and Taiwan. This year the show hosted 700 exhibitors from 15 different countries. It was also the biggest in the exhibition’s history in terms of visitors with over 41 000 visitors attending.

The SACEEC also brought an inward buying delegation from Latin America, including mining companies from Peru and Mexico involved in the mining of lead, zinc, silver, gold and copper.

An inward buying mission and exhibitor forum took was held at the exhibition where the international delegates met with the best local capital equipment suppliers South Africa has to offer as they plan their capital equipment acquisitions for the next two years.

A second delegation from the Chamber of Mines in Argentina also attended the show, and met with its South African counterparts in an attempt to gain knowledge about the local mining industry and its legislation, methods of mining and governance.

**Economic downturn affecting the equipment industry**

The capital equipment companies, however, need to be careful. Since Electra Mining in September, conditions have changed rapidly. The mining industry is facing the consequences of a global downturn, with many commodity prices dropping considerably over a two-month period. This could lead to many equipment manufacturers postponing or even cancelling orders as mining companies cut back on production and delay new projects.

The global recession and its effect on the mining industry have made this sector vulnerable. While the exchange rate favours South African equipment manufacturers such as Bell Equipment, and the weakening rand will benefit manufacturing exports, the question is: for how long? And as new projects are postponed and orders placed on hold, will a weakening rand be enough?

A little over 20 years ago the mining industry also experienced a boom as did its related suppliers. Then commodity prices fell and over the next few years so did many companies. The tough held on and bounced back, and while this may not happen this time around it could if the recessions last well into 2009.

Whether it does or not, there are some tough times ahead for both commodity producers and the equipment industries that supply them. Welcome to the catch 22 of the 21st Century.
With people in mind

by Danette Breitenbach

He has held a number of positions in the industry, including chairman of the Gold Producers Committee within the Chamber of Mines, vice-president of the Chamber of Mines, member of the Mine Health and Safety Council (MHSC) and recently appointed as member of the Mining and Minerals Development Board, Robert Louis (Robbie) Lazare boasts over 27 years experience in the mining industry.

Appointed in the middle of this year as AngloGold Ashanti's executive vice-president – human resources in charge of Corporate Human Resources (HR) and Organisational Development function, Lazare says his career in the mining industry has come full circle.

Initially he wanted to be a teacher: ‘What I knew about mining was dangerous.’ After his schooling at Murraysburg High School in the Karoo where he grew up, and completing a year’s national service, he enrolled at University of the Free State for a BA degree and Higher Education Diploma.
'Our business is people and people are our business. You can have the best assets in the world, but without the right people, you might as well have the worst orebody.'
'I suppose my rude awakening came when I had to do my practical in teaching. After a few days teaching standard 9 and 10 boys and girls on subjects such as “puppy love”, I realised that this was not my career path.'

A friend whose father was a mine manager arranged an interview and as a result I joined Anglo American Gold and Uranium Resources as a HR trainee. ‘From the 80s to the mid-90s I worked on different mines as an HR practitioner. This led to my appointment as human resources manager of Elandsrand Gold Mine, where my main achievement was the co-development and implementation of the organisational development programme called “Wheel of Change” culminating in Elandsrand being labelled as the star of the gold mining industry. The head of the mine at that time was Ian Cockrill who played a major role in my future career.

He was then appointed as the manager of manpower resources for the West Wits Operations, looking after five gold mines employing a total of 37 000 people.

From 1997 to 1998, the period in which AngloGold was formed, he was head of business services for West Wits operations responsible for centralisation of all technical business services and in 1998 he was appointed general manager human resources for Driefontein/AngloGold Joint Venture.

Upon his return to AngloGold Ashanti, he was given a choice by Alan Smit. ‘I had two options: one, become head of HR for the South African Region or two, become general manager of one of AngloGold’s flagship mines – TauTona.’

While one of the richest mines and lowest cost producer – TauTona (better known as Western Deep Levels), was also one of the most complex and deepest mines in the world. Add to that its underperformance and its reputation as one of the country’s most unsafe mines in terms of seismic events – and the challenge was on; Lazare says he could not resist.

‘I had worked my way through the HR disciplines; here was an opportunity to do something new and very challenging – it was scary, but exciting.’

It was also, as Lazare puts it; ‘The first time an HR guy had been nominated to head up a mine’ – and there were bets on the mine that Mr Lazare would not last three months.

He ran TauTona for five years, achieving what many would have called the impossible: for the first time in its 45 year life, TauTona achieved one million fatality free shifts. ‘And we repeated this achievement a year later: We won the Department of Minerals and Energy’s (DME) Safety Flag for deep-level mines twice as well as the AngloGold Chairman’s Safety Shield – also twice! ’

‘I enjoyed my time at TauTona. It was hard work, but very rewarding. I broke down solo structural functions and created integrated management structures and accountabilities and also extended its life of mine from 2005 to 2019 by successfully completing and motivating capital expansion projects (worth R2-billion).’

Another highlight was the breaking of the 20 ton gold production mark in 2003.

With such success it is no surprise that Lazare was then appointed executive officer for South Africa and then Africa. This position, which he held from 2004 to 2007, meant he was accountable for the performance of eight gold and uranium producing mines in South Africa and Obuasi Mine in Ghana, which consists of six shafts or 78 tons of gold and 1.6 million pounds of uranium per annum.

In November 2007, until his appointment as executive vice-president – human resources at the end of June, he held the position of executive vice-president – Africa Region, looking after 16 mines.

‘I was able to really utilise my experience in all the HR disciplines together with the latest innovations in this field as well as the lessons I had learnt in the industry in this position.’

He explains that while his position as executive vice-president – human resources might signal a full circle in his career, it has bought with it a whole new set of challenges.

‘The commodity boom caught the industry
with its pants down. There is a skills shortage because of the high demand for skills. There is a world-wide rush for skills and today the industry has to meet the challenge of finding the appropriate skills.

‘Management in the mining industry has also become a world-wide resource so we are not the only ones in search of these skills. Australia is experiencing a massive shortage and as a result mining engineers are being paid double what they would be in the United States.’

But this is just one side of the HR challenge. ‘The way we work will be organised differently in the future. It is already happening. I recently did a two-week tour of Australia and the United States and the world of work is developing into a different animal from what we know. There are definite trends coming out, which point in the direction of how business will be structured in the future. This means how you deliver will be different and there will be new expectations. We are seeing the effect the so-called millennium kids are having on our world. Our generation has been engaged in work places – the new generation are looking for work spaces.’

To ensure AngloGold Ashanti is ready for the future, structures and organisational design need to be put in place and this, says Lazare, takes time.

‘It is dealing with the people side of the business, the technical aspects and the
processes. How do we position ourselves to grow and what are the implications for the future?

He believes we will see increased mergers and acquisitions. ‘Again this affects people and HR must manage this. It is also important that a mining company has the right people in place. Our business is people and people are our business. You can have the best assets in the world, but without the right people, you might as well have the worst orebody.

‘Part of my responsibility is to ensure AngloGold Ashanti has the right people and is viewed as a preferred employer.’

His choice to run a mine, he says, has served him well. ‘My career route would probably have been completely different otherwise. I was also lucky to work with a great team of people at TauTona. It really was a highlight of my career. To manage an operation successfully is special to me, and, specifically the safety results we achieved at the mine.’

He remembers one incident, when he was still a young HR practitioner. ‘At TauTona, if the lift was not operational, then we would transport workers down the shaft via Savuka mine, as the two were linked. However, it was a long process that entailed catching a bus to Savuka, then travelling down the shaft and then a lengthy walk to TauTona. Of course this journey had to be repeated in reverse to get back.

‘I think this had been going on for a few days when the workers said no more and refused to board the bus. It was in the afternoon and together with mine management, I was trying to persuade the workers to board the bus. They started to throw things in our direction so we took cover behind the bus. This did not last long as the driver decided then and there to leave and drove the bus away, leaving us open and exposed.

‘I laugh about the absurdity of it all today.’

But Lazare does not laugh at deep-level gold mining; he takes it very seriously. ‘There are major challenges facing the gold mining industry, and by gold mining I mean deep-level mining. To meet these challenges we need to find the appropriate technologies and automation. The mines are going deeper and we cannot put people at risk in them. We have to find alternative mining methods.

‘However, the nature of deep-level mining makes the use of such technology incredibly difficult. When I talk about technology, I do not mean existing technology or extending current technology; no, we need to develop new technologies that will successful mechanise deep-level gold mines.

‘Every year our mines get deeper and deeper and every 1 000 metres deeper will require different practices. You are working at a depth and in a workplace that is constantly changing – every time you blast.’

What will also change in the future of gold mining is that major gold finds will be in the more challenging parts of the world. ‘AngloGold Ashanti’s biggest find in 20 years is in Colombia. We also have a large concession in the Democratic Republic of Congo.

‘Hand in hand with this thinking – and rightly so – is that the populations of these areas must benefit from mining. The face of global mining companies is set to change as social, economic and environmental concerns become a greater and greater factor.’

Lazare says that while gold mining is going to decline as mines are mined out, it is not the gloom and doom story as many make it out to be.

‘Deeper is the future and therefore we must find the technology we need. At the same time it is not just about quantity or the amount of gold you produce, but how you produce it. Gold mining is a bigger contributor to the South African economy than most people think.’

Over the next three years he says he is going to address these challenges head on.

‘And then life is open. Who knows where it will take me. Perhaps I will consult, or retire – like some of these old shafts. I like the idea of retiring to Jeffrey’s Bay, but I will never leave this country – I want to stay here.’
Mining is unique among business sectors in that it alone has no control over where to locate its operations. While other businesses consider factors such as access to infrastructure and customers when siting their operations, mining must go where the ore bodies are. As the world’s growing population continues to fuel demand for minerals, the mining companies that provide them are forced to explore in ever more remote, underdeveloped and more biodiverse areas. At the same time, with the world’s biodiversity under threat, societies are requesting more protected areas and improved conservation of natural resources. This has resulted in conflicts between mining companies, local communities and conservation organisations.

Even before environmental concerns became mainstream, South Africa experienced such controversy when early in 1978, state-owned iron and coal producer Iscor announced that it had applied for and received permission to drill and prospect for coal in a section of the northern Kruger National Park adjacent to an existing coal deposit outside the park. In the announcement Iscor set out in great detail the extent of the impacts and its plans for the rehabilitation of the disturbed area following the cessation of mining.

The conflict inherent in mining and conservation

by Markus Reichardt

Wild dog pups in the Venetia Limpopo Nature Reserve
Photographs courtesy of De Beers
The public outcry that erupted led to questions in Parliament and a lawsuit by the Progressive Federal Party Member of Parliament Rupert Lorimer who challenged the manner in which the regulator had given Iscor permission to mine within a proclaimed national park. Although the public prosecutor declined to prosecute, the controversy persisted throughout the first half of 1978 eventually persuading Iscor to abandon its plans.

But the damage to the industry’s public image was done. For a public increasingly aware of environmental issues it was, therefore, unacceptable when in 1989 Richards Bay Minerals (RBM) applied to start mining the St Lucia dunes adjacent to the St Lucia National Park. To the subsequent anti-mining campaign, led by veteran conservationist Ian Player, it mattered little that legal dune mining and the rehabilitation of mined dune areas had been going on for over a decade when the application was made. It also made virtually no difference that RBM could demonstrate its ability to restore the dune ecosystem to a near pristine level subsequent to the dredge mining.

RBM argued that the mining would not be incompatible with conservation and tourism in the long run, since only 50 hectares would be affected by the operation at any one time. The fact that the process requires no chemicals also carried no weight. Finally in March 1996, Cabinet announced that mining would not be permitted in the area. Cabinet further decided in favour of an integrated development and land-use planning strategy, which included conservation of the entire region.

With more than 100 000 parks proclaimed throughout the world, South Africa’s experience is not unique and repeatedly conflicts over land use, such as the Ranger Uranium Mine project in Australia’s Kakadu National Park, or exploration in the protected South American rain forests has led to anti-mining sentiment and calls for bans on mining in all protected areas.

In 2003, the International Council for Metals and Mining (ICMM), whose members include the majority of the world’s large multinational mining companies, recognised the need for a consistent approach towards protected areas with a formal position statement on mining and protected areas.

In a statement, ICMM company members made a commitment not to mine or explore in World Heritage Sites and to work with major conservation bodies such as the World Conservation Union (IUCN) to strengthen the protected areas category system so that it would be applied more consistently.

In the years since then ICMM and IUCN have engaged in a successful dialogue involving numerous discussions and workshops around mining, biodiversity and related issues. This dialogue has reinforced the need for integrated and joint solutions and has provided a clearer understanding of a common challenge, namely the need to seek an optimum balance between the protection of important ecosystems and socio-economic development.

Despite its limitations, the IUCN system remains the only viable international system for categorising protected areas. This was recognised recently by the Conference of the Parties to the Convention on Biological Diversity. The system is internationally recognised and scientifically meaningful. For these reasons, ICMM is committed to working with IUCN to improve the system so that it can better reflect realities on the ground and become an effective and relevant tool for governments, conservationists, communities and industry. The ICMM also participated in the work of the IUCN/Cardiff University/UNEP project, Speaking a Common Language, on the uses and performance of the IUCN system.

A key concern for the mining industry is that the IUCN categorisation system is being used to prohibit mining in areas covered by categories one to four.

The debate is not about the need for protected areas. ICMM has acknowledged that, ‘comprehensive and representative lists of various types of designated protected areas are important to ensure that ecosystems, habitats and species are protected from damage and loss, particularly those which are remarkable in
terms of richness, rarity, sensitivity and are relatively unmodified by human influence'. Furthermore, member companies have pledged not to explore or mine in World Heritage Sites. The debate is rather about the process of designating protected areas, integrating them into landscape level approaches to planning and the need for the categorisation system to reconcile biodiversity protection with peoples' need for adequate livelihoods.

The term protected area is therefore short-hand for a sometimes bewildering array of land and water designations, of which some of the best known are national parks, nature reserves, wilderness areas, wildlife management areas and landscape protected areas. The term also embraces a wide range of different management approaches, from highly protected sites where few if any people are allowed to enter, through traditional national parks where the emphasis is on conservation, but visitors are welcome, to much less restrictive approaches where conservation is integrated into the traditional (and sometimes not so traditional) human lifestyles, or even with limited sustainable resource extraction.

Some protected areas ban activities like food collecting, hunting or extraction of natural resources while for others it is an accepted and even a necessary part of management. The approaches taken in terrestrial, freshwater and marine protected areas may also differ significantly.

The variety reflects a recognition that conservation is not achieved by the same means in every situation and what may be desirable or feasible in one place could be counter-productive or politically impossible in another. Protected areas are the result of long-term thinking and care for the natural world, but also sometimes come with a price tag for those living in or near the areas being protected in terms of lost land or access to resources.
The IUCN defines a series of six protected area management categories based on the primary management objective of an area. In summary these are:

**Category 1a – Strict Nature Reserve:** protected area managed mainly for science. An area of land or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.

**Category 1b – Wilderness Area:** protected area managed mainly for wilderness protection. Large area of unmodified or slightly modified land and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed to preserve its natural condition.

**Category 2 – National Park:** protected area managed mainly for ecosystem protection and recreation. Natural area of land and/or sea designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations (b) exclude exploitation or occupation inimical to the purposes of the designation, of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

**Category 3 – Natural Monument:** protected area managed mainly for conservation of specific natural features. Area containing one or more, specific natural or natural/cultural feature, which is of outstanding value because of its inherent rarity, representative or aesthetic qualities or cultural significance.

**Category 4 – Habitat/Species Management Area:** protected area managed mainly for conservation through management intervention. Area of land and/or sea subject to active intervention for management purposes to ensure the maintenance of habitats and/or to meet the requirements of specific species.

**Category 5 – Protected Landscape/Seascape:** protected area managed mainly for landscape/seascape conservation and recreation. Area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area.

**Category 6 – Managed Resource Protected Area:** protected area managed mainly for the sustainable use of natural ecosystems. Area containing predominantly unmodified natural systems, managed to ensure long-term protection and maintenance of biological diversity, while providing a sustainable flow of natural products and services to meet community needs.

There is increasing and justifiable pressure to take proper account of human needs when setting up protected areas and these sometimes have to be traded off against conservation needs. The mining industry, concerned over access to protected land, argues that all too often, the contribution that mineral extraction and processing can make to poverty alleviation and sustainable development is not adequately considered when deciding between competing land uses. Critics would argue that mining inevitably brings with it negative impacts on the environment and that according to the precautionary principle it is up to the industry or specific companies to demonstrate that they can extract minerals from an area without long-lasting negative impacts.

Such an approach ignores the connections and trade-offs inevitable in pursuing sustainable development. Thus the industry argues that prior to listing any areas for protection (including World Heritage sites) a range of factors – all of which are relevant to achieving more sustainable development – should be considered: the mineral development potential of the area, the impacts of alternative mining and processing technologies (e.g., various types of underground and open pit mining), and the ability to restrict secondary and induced impacts. (The footprint of mining itself can be limited and ecological damage around mines is often as a result of the secondary or induced impacts.)

Decisions taken on the evaluation, designation, management and modifications of a protected area should also be based on the principles of sustainable development and take into account the consequences and the opinions of, and impacts upon local communities, including indigenous peoples. Development opportunities, if forgone, should be addressed by alternative plans for poverty alleviation and social development.

In its self-imposed ban on mining World Heritage sites, the industry has conceded that there are some sites whose ecological or cultural value is simply too great for even limited or temporary mining impacts to be allowed. But precisely for that reason access to less sensitive, but still important areas should not be subject to a blanket ban for responsible miners. Furthermore, it is important to highlight that World Heritage sites are designated by, and subject to legislation different from conventional protected areas.
Under the Convention for the Protection for the World’s Cultural and Natural Heritage, ratified by 185 United Nations’ member states, these sites are considered of outstanding significance for the international community and the selection process is governed by different criteria from those of conventional green protected areas. There are eight World Heritage sites in South Africa: Robben island, the Cradle of Humankind, the Cape Floral Region, the Vredefort Dome, the Richtersveld Cultural and Biological Landscape, Mapungubwe Cultural Landscape, and the Greater St Lucia Wetlands National Park.

Since the St Lucia controversy, no mining company has sought to access protected land in South Africa, instead mining companies like De Beers have played a major role in expanding the national parks system. For example, the development of De Beers’ Venetia diamond mine led the mining company to acquire 16 farms totalling 30 000 hectares, which it formed into the Venetia Limpopo Nature Reserve in 1990. In 2004, this reserve and the adjacent Vembe Reserve were combined into the Mapungubwe National Park. Similarly, De Beers contributed land in Namaqualand for the formation of the Namaqualand National Park.

Protected areas in South Africa are governed by the National Environmental Management: Protected Areas Act 57 of 2003. In terms of the Act there are seven categories of protected areas in the country: Nature Reserves, Special Nature Reserves, Wilderness Areas, National Parks, World Heritage Sites, Protected Environments, Specially Protected Forest Areas and Mountain Catchment Areas. Mining is not allowed as a land-use even on a temporary basis in any of them.

The differentiation between protected areas and heritage sites is important as not all ecologically sensitive areas on the planet deserving of protection enjoy it. Thus the controversy that has erupted over plans to mine the mineral sand dunes of Xolobeni in the Eastern Cape highlights the fact that some areas are deemed sensitive to groups of stakeholders from an ecological or cultural perspective, but do not enjoy any legal protection. Proponents of mining at Xolobeni highlight the economic benefits the mine will bring to local communities in the form of employment, but critics charge that in impoverished rural communities there are few individuals with the requisite skills to access any of the better employment opportunities offered by the mine.

Other land uses such as eco-tourism could generate more wide-spread and sustainable employment opportunities at less environmental cost. However, an initiative to establish an eco-tourism venture in the area has so far failed to take off because of what its proponents claim are bureaucratic obstacles.

The mining industry would argue that if an area such as Xolobeni is declared a no-go area for other land uses, including mining, then it is important to ensure that the protected area is effectively managed and maintained in a condition that meets the category objectives. Should the protected area become degraded,
continued protection may not be justified and other forms of land use may then be more appropriate.

It is important that some form of public assurance on the management effectiveness and condition of the protected area is provided regularly. To provide the assurance that this is in fact happening, a protected areas performance certification process should be developed. In addition a ‘protected areas in danger’ list should be coupled with a certification system, to highlight protected areas that are poorly managed or degrading for some reason and risk losing or even no longer retain the values for which they were protected in the first place.

The goal of this system should be to identify remedial actions to be taken, principally development and implementation of recovery plans, but possibly also downgrading or loss of their status.

At the heart of the mining industry’s critique of the Protected Areas Management Category System is its often inconsistent application and the need to take a region’s broader development needs into account prior to the proclamation or categorisation of a protected area.

In addition, there are a variety of conservation tools, including protected areas that can be applied in a manner that does not compromise the role responsible development can play in poverty alleviation and the resulting improved opportunities for biodiversity conservation. The mining industry argues that, in impoverished situations, conservation and protection of biodiversity without development are counterproductive.

Once an effective categorisation system is in place it will improve the integration and delivery of desired conservation outcomes from landscapes that contain valuable biodiversity. Transparent national and global systems for the evaluation, designation, classification and management of areas listed for protection are needed to ensure consistency of approach to land access decisions.

Scientific, socio-economic and cultural criteria, backed by legal controls, should contribute to the equitable resolution of competing land use, conservation and development objectives. Once these improvements to the IUCN Protected Areas Management Category System are agreed upon and implemented, there should be a wider debate on the issue of incompatibility between conservation objectives and other land-use activities, including mining. The outcome of this subsequent debate could lead to a process for recognising more classes of protected areas as no-go areas.
Fanakakalo – the end of the road

by Christo Oosthuizen

The academic discipline that studies the process by which languages emerge and transform because of the migration of people and colonisation, is known as contact linguistics. Contact linguistics maintains that when speakers of language varieties interact, the languages of all those involved undergo change. Sometimes the changes are minimal, or they can be so extreme that a completely new language emerges – a pidgin – that can develop into a full-fledged creole language. Pidgins usually develop when there is a need for groups of people with different languages to communicate. An extremely simplified language (pidgin) develops, which shares elements of all the disparate languages. Fanakalo is a prime example of this process. It is believed to consist of 70% Zulu, 24% English and 6% Afrikaans.
If the pidgin gains acceptance in the local community and is used for an extended period of time for everyday use, it might evolve into a creole, which is more complex than a pidgin, but still more rudimentary than the original target language.

Speakers of pidgins and creoles initially have a low social status and their languages are usually described as bastard or degenerate.

Although most mainstream European languages are not classified as creoles, the same underlying principles and dynamics that have shaped them have also led to the emergence of Afrikaans and Fanakalo.
Although Fanakalo is classified as a pidgin, it has a few peculiar qualities that differentiate it from classical pidgins. Usually the European language is the target language, but in the case of Fanakalo the indigenous language – in this case, Zulu – is the target language that the European settlers tried to learn. According to Rajend Mesthrie, a linguistics professor at the University of Cape Town, Fanakalo was used between some English settlers in Natal and Afrikaners from the Transvaal and Orange Free State as a language of trade, and also between English colonists and their Zulu servants. But this does not explain why Zulu was the target language of Fanakalo.

Ralph Adendorff offers a different explanation. He maintains that it developed through two different interactions: the simple interaction of Europeans and Zulus and the other the arrival of mainly English missionaries.

Whatever its origins, it is important to understand that Fanakalo did not originate on the mines of the Witwatersrand, as is popularly believed. It is a product of sustained contact between European settlers and the indigenous people of South Africa; it was a lingua franca – a language commonly understood by the people living in South Africa at that time and which enabled them to communicate with each other for very specific (and limited) purposes.

It was for precisely this reason that Fanakalo was introduced on the mines. Because the South African mining industry employs people from across southern and central Africa (including Congo, Zimbabwe, Zambia, Botswana, Malawi and Mozambique), Fanakalo provided a workable solution to the language barrier.

With the advent of the first democratic elections and the subsequent investigation by the Leon Commission in 1994, has the practice of using Fanakalo as a mining lingua franca been seriously questioned.

The Leon Commission found that the use of Fanagalo was ‘very unsatisfactory, because the language has a very limited vocabulary and is unable to convey subtle meaning. While it may be satisfactory for giving simple commands, it is quite inadequate to convey the nature and extent of the dangers that lurk beneath the surface, the source of such dangers, and how best to avoid them.’

Apart from the obvious safety implications of using Fanakalo, the Commission also recommends that English be used as a medium of instruction for basic education and training.

Although the Commission touches upon a critical issue facing the mining industry, it neglects to mention the far broader implications of the continued use of Fanakalo in one of the biggest economic sectors in the world: obstruction of social and economic mobility.

According to Ayo Bamgbose ‘language policy is one mechanism for locating language within social structure so that language determines who has access to political power and economic resources... [it] is one mechanism by which dominant groups establish hegemony in language use.’

Fanakalo, in essence, is a language of instruction. In pre-1994 South Africa that meant a white boss instructing a black worker, in a language that not only degraded the worker but kept him from any avenue for promotion. Whether Fanakalo was deliberately used to obstruct economic mobility (and by implication, political mobility), or whether it was an unintended consequence of its use is debatable.

Whatever the case may be, the fact is that Fanakalo does prevent economic and social mobility, because, like most pidgins, its use is restricted to a very limited communication situation.

The Department of Minerals and Energy (DME), the Mining Qualifications Authority (MQA) and the National Union of Mineworkers (NUM) hold that Fanakalo should be eliminated. NUM wanted Fanakalo to be eradicated by the year 2000, although this has not materialised. The chief executive of Project Literacy confirmed that this opinion is shared among ABET stakeholders in the sector.
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In its report on literacy levels and language profiles in South African gold and coal mines, the Mine Health and Safety Council quotes a University of the Witwatersrand senior tutor, who spent four months in a mine hostel for research purposes: ‘Fanakalo is the language of the place [the mine]. It was once spoken by hundreds of thousands of workers.’ Although he concedes that ‘Fanakalo is no longer being taught on mines, it is still prevalent in this context as it was before the political dispensation of 1994.’

One training manager at a Mpumalanga Colliery, observed that the 1 000 coal miner underground speak Fanakalo 90% of the time they are underground, another gave the figure of 70% of category 3 to 8 workers (semi-skilled workers who work underground), while a training manager of a large coal group estimates that the 2 171 workers employed at the mine use Fanakalo as medium of instruction.

According to the Mine Health and Safety Council’s report, an estimated 47.6% of category 3 to 8 mine workers are functionally illiterate. Functional literacy is described as ‘those adults who have completed seven years of schooling (grade 7) or ABET level 3 or its NQF (National Qualifications Framework) equivalent’, and illiteracy as ‘an adult lacking a basic education who is aged 15 years or older and has received no education or less than seven years of formal schooling, or its equivalent.’
Given this, and the fact that Fanakalo is still largely used underground as a means of communication, the opportunities for economic and social mobility for category 3 to 8 mine workers are extremely limited. The introduction of adult basic education and training (ABET), learnerships, apprenticeships and skills programmes in the industry has gone a long way to rectify the situation and provide workers who have no or very limited schooling an opportunity to at least acquire a basic education – with a view to further education and training. Unfortunately the ABET uptake is fairly low and the progression toward NQF level 1 qualifications still lower.

For all forms of skills development, the medium of instruction is critical. If learners are taught in a language completely foreign to them, it will probably impact on uptake and progression (although it is difficult to accurately measure the impact). In a multilingual society such as South Africa (and even more so in the mining sector, because of the extensive use of migrant labour), language problems are ubiquitous and impact greatly on communication. How is knowledge acquired without an understanding of the language used to explain concepts and reasoning?

In a recent study done at Beatrix Gold Mine, the average level of education was found to be ABET level 3 – an education level at which susceptibility to communication problems is exceptionally high if any language other than an African language is used as medium of instruction or communication. The survey results indicate that, in the case of Beatrix Gold Mine, a proportion of communication problems appears to be attributable to the use of English and Fanakalo as media of communication and learning instead of African languages, which corresponds closely to the figure given by the Mine Health and Safety Council. It therefore stands to reason that, in all probability, the same will be true for most mines in South Africa.

According to the Leon Commission, English should be used as a medium of instruction for basic education and training. Most mining companies have also opted for an English language policy and present ABET classes in English. It also seems that mother tongue literacy has been or is being phased out in certain companies.

Some mining companies claim that adult learners prefer English above mother tongue literacy. Most adult learners appear to recognise the importance of English for a number of reasons. First, because they see a lack of English as a barrier to further learning and promotion and secondly, for its functional purpose in the workplace and society.

In its 2001 Proposed language policy for the mining and minerals sector, the MQA states that it intends to: ‘develop the previously marginalised languages in order to empower the disadvantaged to participate more effectively in decision-making processes in the workplace.’

The following four statements by the MQA are significant: ‘encouraging multilingualism... ensuring that language is not a barrier to learning... expecting ABET to introduce an additional language that encourages further learning... discontinuing the use of Fanakalo’.

Clearly the mining sector and the MQA are at cross purposes. Probably because from the one perspective, if Fanakalo is phased out, the only practical, workable solution – in the face of so many languages being spoken in mines across the country – is to substitute it with English; and from the other perspective, the only way to build a non-racial, democratic society where all people and languages are treated with equal respect, is to encourage and promote multilingualism.

The danger is that an overeager, almost naive approach to the problem can have dire practical implications for the industry. This is not only an academic or political issue, but impacts directly on health and safety in the workplace. It needs careful consideration and all possible consequences of whichever language policy is decided upon need to be thoroughly examined.
The industry is particularly concerned about the impact the phasing out of Fanakalo will have on health and safety of workers. The phasing out of Fanakalo will have a significant impact on communication structures and methods in the mines.

Research conducted by Anglo Platinum shows that use of Fanakalo has an adverse effect not only on communications, but also on safety issues. There are also indications that the introduction of a dominant local language might improve communication and by implication also health and safety. The impact of phasing out Fanakalo depends on all stakeholders and the circumspection with which the policy is implemented.

One possible solution is presented by Anglo Platinum. Managing director of Media Works, Jackie Carroll, explains: ‘Working in partnership with key stakeholders, a comprehensive language strategy will be phased in over the next three years whereby all employees, supervisors and management will have to learn two languages, namely English and the dominant local language. As research conducted amongst some 6 000 employees revealed, most employees agreed that a change in Anglo Platinum’s language policy would improve understanding among employees and enhance workplace safety. The aim is to provide for an operational level of communication proficiency, rather than to enable literacy and fluency.’

Although this policy does not target functional literacy directly, it does empower employees to become literate in any of the spoken languages they have acquired, which in turn will probably have a positive impact on the delivery of basic education programmes.

Whatever the outcome of this process, it is imperative that all stakeholders work towards the same goal: ensuring a safer and better life for all.
South Africa has abundant reserves of manganese with the deposits in the country’s Northern Cape estimated to hold between 80% of the world’s total reserves. South Africa is the largest manganese producer after China.

According to the International Magnesium Association, the metal is the 12th most abundant element in the earth’s crust. But it is seldom found in high enough concentrations to constitute viable manganese ore deposit.
The association’s website states: ‘Current estimates of world manganese reserves, including low grade ore, reach several billion tons. But if only high grade ores (defined as having more than 44% Mn content) are considered, then reserves are in the range of 680 million tons of ore, with Australia, Brazil, Gabon and South Africa supplying over 90% of the international market’.

Compared to minerals like iron ore, manganese is not as high profile metal in terms of the quantities sold, but its fortunes like those of iron ore are closely linked to the global steel manufacturing industry. Manganese is the fourth most used metal in the world and ranks behind iron ore, aluminium and copper in terms of the metal mined on an annual basis. In 2006, 34 million tons of ore was mined.

Graham Butler, executive: mining operations at South African manganese producer Assmang, said that in the last two years production of manganese has mushroomed as a lot of smaller Chinese producers, using poorer quality manganese to feed the steel industry, have come on line.

Assmang, 50% held by African Rainbow Minerals and Assore, and BHP Billiton and Anglo American’s Samancor Manganese, are the only companies mining manganese in South Africa at the moment, although a number of junior mining companies have plans to build mines in the next few years.

Manganese has a number of applications, the most important being its role in the steel making process where it is used to harden the steel without reducing the toughness of the iron.

Roughly 90% of all manganese consumed annually goes into steel as an alloying element.

In the 20th century, manganese has been used in a stream of new processes and metallurgical/chemical applications developed for markets as diverse as beverage cans, agricultural pesticides and fungicides and electronic circuitry.

The metal’s properties as a toughening agent for steel were first established in the mid-19th century, but it is believed that manganese dioxide was used as a pigment in cave painting during the Stone Age.

As the global economy slows, demand for manganese and manganese alloy is expected to wane as steel production falls. As yet it is difficult to predict the extent of the dip, but already companies are cutting back on production.

Brazilian mining company Vale said it intended to stop its manganese ore and manganese alloys operations in Brazil through December and into January 2009. It plans to idle its manganese alloys operation in France until April 2009 and says its manganese plant in Norway will extend its planned maintenance period into June 2009, whilst its manganese plant at Mo I Rana in Norway will also extend its maintenance until June 2009.

According to Metal Bulletin, the price of manganese flake fell by $550 in a week during late October, dropping to $2,450 – $2,600 a ton. Demand had weakened and traders were waiting to find out if the Chinese had temporarily stopped production.

In 2006, global production of manganese alloy was 11.8 million metric tons in manganese content, with China producing 42% of the total.

For the past year or so the Chinese government has been trying to consolidate the country’s steel industry and manganese alloy production. The Chinese government wants to reduce the amount of energy intensive industry and limit over-capacity, which can lead to weaker prices. As a result it has imposed a 10% export tax on manganese alloy and has given licences to only about 200 ferroalloy producers that continue to face higher energy costs.

Butler says Assmang, which produces a high quality alloy, has not cut back production and has no plans to do so. However, stockpiles of manganese alloy are large and it is likely prices will come down further.

‘We think that in the medium to long term prices will come back nearer historic figures,’ says Butler.
Butler says that Assmang is a low cost producer and has no intention of cutting production. ‘The main driver for manganese is the steel market and in the long term countries like China and India will continue to grow. There is still a strong belief that the market will grow albeit at a lower rate than a few months ago,’ he says.

Smelters

In the mid 1970s, manganese ore producers such as South Africa, Brazil and Mexico realised they could get more for their ore if they beneficiated it before selling it to the world’s major steel making nations. This was the reasoning behind the construction of BHP Billiton’s ferromanganese plant at Meyerton in 1978. It was not until 1991 that another plant was upgraded when Assmang invested in a smelter at Cato Ridge in KwaZulu-Natal.

‘The only new ferromanganese furnaces constructed in South Africa were an 81 MVA M12 furnace in Meyerton for Samancor (now BHP Billiton) in 1978 and a 24 MVA No 6 furnace at Cato Ridge for Assmang in 1991,’ says Pat Davies marketing director at Metix a process and equipment supplier for the ferromanganese industry.

‘At that time, M12 was the largest closed ferromanganese furnace ever constructed in the world, with electrode diameters of 1.9m. The key strategic element for Samancor with regard to this plant was a larger furnace with a lower cost of production of ferromanganese. In addition, and for operational reasons, the plant applied the first use of stainless steel electrode casings,’ Davies explains.

As part of the ferromanganese smelting process, manganese ore is converted to ferromanganese using the electric smelting process.

Projects in South Africa

Assmang’s Nchwaning II Shaft complex utilises the manganese ores of the Kalahari Manganese Field around Hotazel in the Northern Cape.

The mine was established in 1972, with the Nchwaning No.2 shaft coming into production in 1981. The ore is crushed underground before being hoisted up a 450m vertical shaft.

Assmang has completed a new shaft complex known as Nchwaning No.3, which is expected to provide access to high quality ore for decades to come. Production from this complex started in May 2004 and became fully operational in February 2006. The new mining operation is serviced by two shafts: a vertical personnel shaft to a depth of 350m and a decline shaft equipped with conveyors, which is the main hoisting shaft.

As well as accessing higher grade ore, the plant at Nchwaning was upgraded to treat the ore from both Nchwaning No.2 and No.3 mines.

‘Ore is crushed, washed and screened to various sizes and then stacked according to size and grade. These stacks have nominal capacities of 280 to 320 tons each and are numbered and sampled. This allows extremely accurate grade control for all shipments made from the mine,’ an Assmang spokesperson explains.

Silico manganese, which is most commonly used in lesser grades of steel, is not made by Assmang. It is not of the same quality as the high carbon ferromanganese which is 74% to 78% manganese. Assmang also produces refined manganese, which varies according to the customer, but typically has a manganese content of 80% to 82%. More than 90% of manganese ore is made into alloy for steel making.

Assmang also mines at Gloria near Hotazel and the manganese ore that is not transported to Assmang’s ferroalloys plant at Cato Ridge is sent by rail along the 1 100km Hotazel-Port Elizabeth line to be exported through the port in Port Elizabeth.

The port facilities at the Port Elizabeth harbour consist of a two-line interconnecting conveyor belt system. From the tippler, the ore is carried either by one or both lines to the storage bins where it is deposited by means of one or two stacker reclaimers, or directly to
the vessel. Each bin can hold 460 000 tons.

Assmang produces 270 000 tons a year of medium and low carbon manganese alloy. The company is looking into substantially increasing its manganese alloy production and is at the environmental approval stage for these expansions, says Graham Butler. Assmang sends about 25% of the ore it mines at Nchwaning and Gloria to its Cato Ridge processing facility to be made into manganese alloy and the rest of the ore is exported through Port Elizabeth.

The company, like many other mining companies, is keen to increase capacity and is talking to Transnet about rail access to transport more ore to Port Elizabeth where the annual export capacity is four million tons of ore a year. The alloy is exported through the port at Durban.

Samancor Manganese, which is owned by both BHP Billiton (60%) and Anglo American (40%) and managed by BHP, is a large contributor to BHP’s global manganese operations. The company has mines in South Africa and Australia and is the world’s biggest producer of manganese.

The company is ranked number one in the world in seaborne supply of manganese ore and in the top three global producers of alloy. About 80% of the company’s products are exported to alloyers and steelmakers across the globe. The key markets for ore are China, Japan, South Korea, India and the European Union, while the key markets for alloy are North America, the European Union, Japan and the Middle East.

BHP, like Assmang, also mines in the Hotazel region, operating the Hotazel Manganese Mines in the Northern Cape. There are two manganese mines—Wessels and Mamatwan.

Mamatwan is an open-cut mining operation. A dense medium separation plant on site beneficiates the ore before sintering. Sintered manganese ore has several distinct advantages over natural ore when used in electric furnaces for ferroalloy production.

BHP’s Manganese Metal Company (MMC) is based in Nelspruit and is the largest producer of pure electrolytic manganese metal in the world.

MMC produces only selenium-free electrolytic manganese—the purest form of manganese. The metal is produced from high-grade manganese ore extracted via a hydrometallurgical process.

Samancor Manganese has a 51% shareholding in MMC, with Bilston Investments (Pty) Ltd, a member of the Delta Plc group, owning the remaining 49%.

BHP’s Metalloys plant is a manganese alloy plant that produces siliconmanganese and ferromanganese also using a hydrometallurgical process.

Production

Reporting its results for the third quarter of 2008, BHP Billiton recorded a record amount of manganese from its Hotazel manganese operation. This increase came in spite of the fact that the majority of South Africa’s mining companies are still working on 90% of their average historical electricity demand.

The company produced 27% more manganese in the three months to the end of September 2008 than in the same three months of 2007.

The combined output from Hotazel in South Africa and Gemco in Australia was 1.8 million tons of manganese, whilst manganese alloy production was up 10% at 203 000 tons.

BHP Billiton is expanding its co-generation facility in Meyerton, where Metalloys beneficiates manganese ore into manganese alloy.

The company is facing challenges in controlling its electrolytic manganese processing plant at MMC in Nelspruit, Mpumalanga in view of the electricity shortage.

‘We expect volatility and uncertainty to continue in the short term. Notwithstanding this short-term uncertainty, we remain confident that the ongoing industrialisation and urbanisation in China and other developing economies will continue to drive strong longer-term demand for our products,’ BHP noted in its September quarter updates.
New projects

The Kalagadi Manganese project, in which ArcelorMittal South Africa bought a 50% stake and the Industrial Development Corporation has a 20% interest, is in the development phase. The operation, headed by Kalahari Resources, plans to develop a three million ton a year manganese mine. In October, the company had completed a bankable feasibility study and was already buying plant for the project.

The project involves the development of a three million ton a year manganese mine as well as the construction of a 2.4-million ton a year sinter plant. Kalagadi, which holds a significant stake, will build a 320 000 ton a year ferro-manganese alloy plant at the Coega Industrial Development Zone in the Eastern Cape.

The first manganese production is scheduled to be exported by December 2008, three months ahead of the original schedule. A resource of 39 million tons had already been proven at a grade of 38.9% manganese, with more drilling still under way.

Pallinghurst Resources is another company that plans to develop a manganese mine in South Africa. Pallinghurst, which listed on the Johannesburg Securities Exchange earlier in 2008, has a stake in the Nsimbintle manganese project in the Kalahari. A bankable feasibility study is underway and all Pallinghurst will reveal is that the mine may be developed in three years.

Brian Gilbertson is the chairman of private equity company Pallinghurst, which manages Pallinghurst Resources.

‘I continue to believe that this will be an area where in future the steel companies will be competing intensely for resources. Manganese is one, and iron ore and coking coal are others. I can’t fabricate the products out of thin air. We will concentrate on delivering what will form a fine foundation for the steel feedstock concept and watch for other opportunities,’ Gilbertson said in an interview earlier this year.
White elephants and train drought

by Danette Breitenbach
The Richards Bay Coal Terminal (RBCT) Phase V expansion is expected to be completed mid-2009. This expansion will see the terminal’s capacity increase from 71 million tons a year (Mt/a) to 91 Mt/a a year. This could potentially bring in R6-billion per annum of foreign currency into the country. Spoornet alone could earn around R1-billion per annum.

Almost half of the additional capacity has been allocated as follows: ArmCoal – 3.2 Mt/a, Exxaro Coal – 2.5 Mt/a, Tumelo Coal Mines – 600 000 tons a year (t/a), Yomhlaba Resources – 500 000 t/a, Mbokodo Mining – 500 000 t/y, and the remainder to Umcebo Mining, Mmakau Mining and Worldwide Coal Carolina.
The remaining capacity has been divided between emerging black economic empowerment (BEE) exporters (4 Mt/pa) and the South Dunes Coal Terminal (6 Mt/a). The South Dunes Coal Terminal is a two-thirds BEE-controlled company.

Junior BEE coal mining companies have seemingly been hampered in exporting coal through the RBCT since their inception and the terminal's expansion will create a new generation of coal exporters, mainly emerging black coal miners.

Exporting coal to Europe was first considered in the 1960s, but vessels with at least a 100 000 ton capacity were required. With no existing South African harbour able to accommodate the draught of such vessels a deep water harbour was needed. Richards Bay was selected from five possible sites and in 1971 an application for the new port was submitted to the then Railways and Harbours Administration.

The application, from the then Transvaal Coal Owners Association (TCOA), which was made up of 26 collieries and had been founded in 1923, was for the export of 109 Mt of bituminous coal at an annual rate of not more than 9 Mt, in 1976.

A railway line was also required and a line was built between Broodsnyersplaas and Richards Bay. The first 50 wagons arrived at the terminal on 23 January 1976 carrying 3 724 tons of export coal.

The terminal was an instant success. However, this instant success also placed instant pressure on the railway line. As the demand for larger tonnages grew rapidly, the line needed to be upgraded. COALlink, as it is known today, moves trains of 2.5 kms in length carrying 17 kt of coal to the terminal, but despite this it is still the subject of many export coal producers’ frustration.

In 1973, the RBCT was formed to export 12 Mt/a. Five years later this was expanded to 24 Mt/a and again in 1984 to 44 Mt/a. In 1991, capacity was increased to 53Mt/a and a year later to 63 Mt/a. A mere five years later the capacity was again increased, this time to 69 Mt/a. The expansion to its current capacity of 72 Mt/a was reached in early 2000.

Today the terminal is still owned by the six original shareholders, despite the most of the companies having changed name. Newcomers that joined over the years are Total Coal and Sasol. BHP Billiton (BHP) (37%), Anglo Coal (27%), Xstrata Coal (29%), and Kangra (2%) were all part of the first shareholder's group. Eyesizwe Coal was created, from collieries owned by Anglo and BHP collieries and therefore received portions of their quotas.

In 1994, the country entered a new era with the election of the first democratic government. This also led to a new era in the mining industry, specifically with the Mineral and Petroleum Resources Development Act (2002). The Act gave rise to a number of small BEE coal companies.

These companies aspired to be coal exporters. However, given the structure of the terminal and the railway, these companies found it difficult or near impossible to export through the terminal unless they sold their coal to a RBCT shareholder or trader with an allocation for the terminal. The result meant a very small profit.

As the number of BEE companies grew, so did their discontent with the situation. In 2002, the Department of Mineral and Energy (DME) invited the coal industry to the Coal Export Forum to discuss this matter. It was agreed that BEE coal producers needed access to the terminal. While the terminal was built by its shareholders for their use, even they agreed that a solution was needed to ensure more coal exporters entered the market.

As a result, the Coal Industry Task Team (CITT) was formed from the Coal Export Forum to resolve the problem. A mere two months after its formation, the CITT held talks with the terminal, Spoornet and the National Port Authority (NPA) in an effort to resolve the situation.

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While the terminal could give CITT a million tons of coal for the financial year
2002/03, only 300 kt was utilised by only four applicants, as the allocation had been made too late in the year for participants to take proper advantage of it. Despite this, it was clear that one million tons was never going to be enough for the newcomers.

To ensure a streamlined process of moving coal from small producers and integrating these small stockpiles into larger tonnages capable of using existing RBCT facilities, the CITT companies appointed an export facilitator, Mhlatuze Coal Administrators (MCA).

In June 2003, RBCT’s shareholders offered an incremental allocation of 1 Mt/a, from 1 Mt for the financial year (April/March) 2002/2003 to 4 Mt/a for 2006/2007.

During the second year, 2003/2004, 14 companies submitted applications and the 2 Mt/a was fully utilised. In the third year, 28 companies applied, but only 17 qualified. Last year’s four Mt/a was shared by 18 BEE companies.

The result is that the CITT companies have, for the last two years, exported more than the RBCT shareholders. Although many more potential exporters are queuing for allocation, that allocation is still not enough. Hence the development, called Phase V, by RBCT. The allocation from Phase V is also not enough as about 27 companies applied for allocations, completely oversubscribing the available 9 Mt/a.

The Phase V allocation is made up of eight companies, including Yomhlaba Resources, Umcebo Mining, ARM Coal, Tumelo Coal Mines, Mmakau Mining and Exxaro Coal. Long-term commercial users are Mbokodo Mining and Worldwide Coal Carolina. African Rainbow Minerals (ARM) was given the biggest allocation (3.2 Mt/a) next to Exxaro Coal (2.5 Mt/a). Tumelo Coal received 0.6 Mt/a and both Yomhlaba Resources and Mbokodo received 0.5 Mt/a.

The other issue causing problems is that of railway capacity. In 2008, Transnet said it could
Coal train departing for Richards Bay
only move 69 Mt although there are plans to raise the railway's capacity over the five years to March 2013 so that it is in line with the terminal's capacity.

In the meantime the BEE companies find themselves on a seesaw. Many companies have secured loans to fund their expansion to meet the export capacity allocation, now they have no capacity at the terminal.

Bridgette Radebe is the head of Mmakau Mining, one of the companies to get an allocation at the terminal. She is also the president of the South African Mining Development Association (SAMDA), which represents a number of the country's junior mining operators.

She maintains that these issues will make white elephants of the BEE companies. 'The export of coal is of the utmost importance as this will allow all empowerment companies to meet their funding challenges.'

The Quattro programme is made up of emerging BEE exporters, which have annual export volumes below 250 000 tons a year. MCA is concerned about the 18 companies that form part of the Quattro programme, which are currently exporting 4 Mt/a of coal through the RBCT. Early in 2008, Bill Lamont of the MCA said a huge gap existed between what was available and what the Quattro members were asking for.

All 18 Quattro members had asked for increased export allocations for the 2008/2009 financial year. A further nine companies had, at that stage, asked to join Quattro. Therefore the export allocation by Quattro scheme for this financial year added up to 9 Mt/a and not the allocated 4 Mt/a. Lamont points out: 'Over the next five years indications are this demand will rise to 13 million tons/year.'

This is not new. In 2006, Radebe said the issuing of coal licenses to juniors was irrelevant if they could not access the export market through the ports. More recently Radebe has said that the capacity allocated to junior coal miners was insufficient and that, even with the planned expansion, empowerment miners would not be able to export enough coal. 'There is no future guarantee as to how much of the 10 million expansion to 92 million tons will be earmarked for empowerment companies,' she adds.

This is despite Anglo American and BHP Billiton ceding their Phase V allocation to empowerment interests. Radebe's point is that as the terminal expands so do the number of smaller export coal companies.

But some are excited about the expansion. When the expansion was announced then RBCT chairman Tony Redman said: 'We are excited about the expansion and believe it reflects the spirit of transformation in South Africa. The additional tonnage will be mostly allocated to BEE companies and thereby open up opportunities for BEE coal mining companies who have not previously been able to export coal.'
The one issue that both BEE and non-BEE companies are facing is railway capacity. While small coal producers may wish to ship more coal, the rail capacity is inadequate.

Tom Kearney, commercial director of junior coal miner Bisichi Mining Plc, which is fully listed on the London Stock Exchange, calls it the Great Train Drought of 2008.

While he has called for a rethinking of how new capacity can be provided, the large companies have said this is already taking place.

The RBCT is also considering an additional expansion to over 100 million tons a year. Any expansion beyond the 91 million tons of Phase V will depend on feasibility and demand.

Plans are underway for the expansion and improved performance of the coal export line at a cost of R4.911-billion, which includes 110 electric locomotives dedicated to the coal line. Transnet maintains that this will increase the volumes being transported and the line will have the capacity to meet anticipated future demand.

"We have been in talks with the coal mine industry since 2006 on their capital expansion programme at RBCT and we anticipate matching rail capacity with coal export demand. "We have developed a comprehensive plan that encompasses production optimisation and re-engineering initiatives, safety programmes, and extensive capacity expansion. The shortage in the production of wheel sets is being addressed through sourcing from multiple wheel manufacturers internationally," says a Transnet spokesperson.

However, the railway matter remains confusing. At the most recent CoalTrans conference in September 2008, regional operations executive, Fuzile Magwa, said RBCT's demand for 91 Mt/a will be met in a phased approach.

Transnet chief executive, Maria Ramos, and chief financial officer, Chris Wells have said that capacity on the line, owing to budget constraints, will only be 78 Mt/a.

So while Transnet's expansion programme will not be completed until 2012, both small, and large coal exporters are currently unable to get a share of train capacity to move their coal.

Derailments, a shortage of locomotives, rail trucks and skills are some of the challenges this line faces. This year's power outages must be added to the list of problems facing exporters.

At the CoalTrans conference in September 2008, largely because of the power outages, the railway issue took another turn as the industry began to discuss initiatives such as private investment. Some of the ideas put forward were part funding by mining companies of a new railway line and equipment, and a proposal to set up a private or semi-private line. Industry executives agree that it is time to work together and find a solution.

Meanwhile Junior miner Coal of Africa (CoAL) has had enough of waiting and recently signed up with shipping group Grindrod for an allocation of 1 Mt/a through the Matola terminal in Maputo with an increase to 900 000 t/a by 2010 through Grindrod's dry bulk export terminal at Richards Bay.

The coal will be railed as part of the general freight allocation on the Witbank to Richards Bay line. The rail and the port both fall outside of the COALink and the RBCT. This development is sure to send ripples through the coal exporting sector and it is said that Grindrod will be looking to sign up other coal exporters.

CoAL managing director, Simon Farrell, had this to say: "We are going this route because it avoids a lot of the problems that the juniors are encountering trying to export through the RBC. However, we are not far from a comprehensive agreement with Transnet and other parties, which will secure a long-term solution for our plans to export 10 Mt/a of coal out of the country by 2012 at the latest."

Grindrod also intends to expand Matola to a capacity of 6 Mt/a (from its present 4 Mt/a). This will give CoAL 3 Mt/a. If further expansion is also carried out – a feasibility study is underway – then CoAL could be allocated as much as 7 Mt/a.