

Gold mine industry must manage haemorrhage of jobs



By [Roger Dixon](#)

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As gold mining in South Africa heads into its sunset years, it is wishful to think that a 'silver bullet' such as mechanisation will create a sustainable future; rather, the industry's stakeholders should be squaring up to the formidable social and environmental challenges that the inevitable mine closures will bring.



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The sector's gradual but steady decline over recent decades is a sign of its natural trajectory as operations deepen to reach remaining ore bodies, as grades drop and as costs rise faster than returns.

Once the world's number one gold producer - with gold production peaking at 1,000 tons in 1970 - SA is now in sixth position in the global rankings, producing just 150 tons. Employment has dropped steadily; whereas the sector employed 550,000 workers in 1987, its workforce is now only about 100,000 - of which several thousand are currently at risk at unprofitable operations.

Not an option

Mechanisation is generally not an option in most SA gold mines. The only operations in which this really works are those specifically designed for it from the start - such as the Target, South Deep and Modder East.

The deep and narrow-reef conditions in older gold mines were in any event not conducive to mechanisation, and few technological developments had been made in recent years to significantly address these constraints.

Following gold reefs to greater depths has meant steady increases in the costs of mining, which have not been matched by improvements in either productivity or gold grades. So it is not difficult to understand the deterioration in mine viability over the years.

Rapidly rising electricity prices have impacted particularly harshly on deep mines, as depth boosts key energy cost factors like refrigeration and rock hoisting.

Apart from the sheer cost of electricity, the unreliability of power supply erodes mine productivity even further. Having capacity reductions or even load-shedding has a hugely disruptive effect on mines, which comprise a complex set of integrated functions and may take days to fully resume efficient operational levels.

The real issue

The real issue for gold mining is how to better manage the unstoppable haemorrhage of jobs.

The income of the average mine worker supports about eight people, so the knock-on effect of every lost job is massive. Alternative livelihoods should be a key focus of attention for all stakeholders.

The looming environmental impacts of gold mine closure has become a source of some contention between mining companies and the state. The full extent of environmental damage arising from gold mining may only emerge decades from now. But as we have witnessed with the acid mine drainage around Johannesburg, the impacts and resultant costs will be substantial.

It is time for stakeholders to 'grasp the nettle' and put to rest any unrealistic notions of SA gold mining's imminent revival.

ABOUT ROGER DIXON

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