

Improved skills can increase mining sector's contribution to economic growth

 By [Professor Caroline Digby](#)

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As Africa renews its efforts to improve mining's developmental impact, the spotlight is increasingly falling on the skills needed to manage the sector and the capacity of African educational institutions to deliver them.



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The shortage of technical skills (such as mining engineering and geology) has been well publicised for some time now. What is increasingly apparent is that we need to generate a wider range of crucial skills if mining is to forge a more integrated and positive role in economic growth and sustainable development on this continent. Capacity needs to be built in fields like strategic planning, law, contracts, finance, fiscal policy, environment, community affairs and human rights.

The dearth of these skills has meant that Africa - despite its abundance of mineral resources and long history of mining - has so far not reaped the anticipated developmental benefits. This is one of the main reasons why African governments have endorsed the African Mining Vision (AMV), aimed at managing Africa's minerals so the sector can help pro-actively in lifting the continent out of poverty and moving toward growth, development and prosperity for all. The AMV recognises that the key element in determining whether or not a resource endowment will be a curse or a blessing, is the level of governance capacity and the existence of robust institutions.

Building partnerships

The implementing arm for the AMV is the African Minerals Development Centre (AMDC) which has been established to translate the vision into practical solutions for reducing poverty and involving people in development. Alongside promoting the enhanced use of geological and geospatial information, the AMDC has set broad-based skills development in the sector as one of its priority work streams. This initiative presents a major opportunity to build partnerships and support across Africa's educational institutions and borders.

At the Centre for Sustainable Development in Mining and Industry (CSMI) we see great value in establishing a robust programme of continuous professional development for all stakeholders in the sector. While we contribute to the postgraduate degree courses at Wits University's School of Mining Engineering and other departments, our main focus is to provide short training programmes and workshops for practitioners already in the workplace in the private and public sectors. As we develop our suite of courses, we plan to move more in the direction of on-site training and residential block courses, alongside developing our on-line or distance learning capability.

A useful model to start thinking about more integrated delivery of training across Africa and mining regions globally is our Minerals Industry Risk Management course, originally developed at the request of Anglo American to roll out across their operations worldwide. CSMI is part of a consortium of universities, licensed by the University of Queensland with Wits University, the University of Pretoria and the University of Cape Town as the South African university partnership, as well as universities in Brazil, Chile, USA and Canada.

Aim of course

The aim of the course is to initiate a radical change in safety within operations through improving managers' practical understanding and practice of safety risk management, leading to better decisions affecting safety. As international standards start to bite and performance requirements converge, it will become more common to bring together internationally accredited providers capable of delivering training to an international standard.

Globally, we have seen a significant tightening of safety, health, environment and community regulations as a response to growing concerns about the poor performance and high profile accidents of the industry. However, these regulatory frameworks in Africa are still somewhat piecemeal and the capacity of the various regulatory agencies to enforce and monitor compliance is generally weak.

Our research has shown that there is much work to do to build capacity as most regulators report difficulty in finding and retaining the right candidates, and good staff are often lured away to the private sector by higher salaries or a better resourced work environment. We need to advocate for more formal continuous professional development and mentoring to be linked to career progression in the public sector, if we are to dispel the widely-held perception that the regulator is poorly equipped to deal with a better resourced private sector.

Holistic set of skills

The demand for new skills is not restricted to the public sector and the regulator; the mining companies are also increasingly realising the need for a more holistic set of skills to manage their business through the life-cycle. Right from the earliest days of exploration, company personnel are now being asked to manage a complex terrain of sustainable development issues from occupational safety and health to local community engagement and environmental mitigation measures.

A 2014 report by Deloitte lists the talent gap as one of the top ten issues facing mining companies in the coming year. As cost-cutting sweeps across the industry, even companies who have had strong talent development are experiencing significant layoffs with the loss of operational experience and institutional memory. This trend is hitting all levels of management right up to the boardroom. Given that we can expect the future to be more uncertain, from commodity price volatility to climate change impacts, we as universities must respond proactively to equip tomorrow's leaders with the multi-disciplinary skills and resilience that will ensure mining does maximise its contribution to sustainable development.

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