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THE INTERFACE BETWEEN MINING AND MANUFACTURING

PRAVIN GORDHAN OPENS UP TO US

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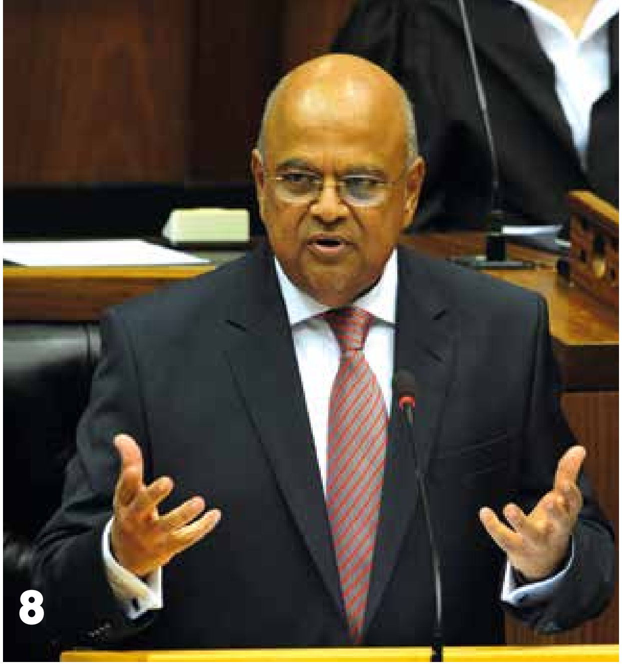

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PO Box 12491, Mill Street 8010
Website: www.newagenda.org.za

Editor
Prof Ben Turok
Sub-Editor
Helen Douglas
Production
Aneesah Reynolds
Finance
Tel: +27 (0) 21 403 2593
Fax: +27 (0) 21 461 9390
E-mail: newagenda01@gmail.com

Published by
PICASSO HEADLINE
Excellence in niche publishing

Head of Editorial and Production
Raina Julies
Head of Design Studio
Jayne Macé
Design and Layout
Shaun Reddiar
Mfundo Ndzo
Copy Editor
June Hare
Content Coordinator
Vanessa Payne
Advertising Sales and Marketing Team
Business Manager
Robin Carpenter-Frank
Project Manager
Jerome van der Merwe
newagenda@picasso.co.za
Sales Consultants
Natasha Hendricks
Xolani Ncgeba
Zukisani Silwana

Tel: +27 (0) 21 469 2400

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Distribution queries:
Stuart Dickerson
NND or Media 24
Tel: +27 (0) 11 715 8033

Editorial Board

The interface between mining and manufacturing

An Experts' Consultation on the Interface between Mining and Manufacturing was held at the Industrial Development Corporation (IDC) on 22 August 2013. The forum was co-hosted by the IDC, the United Nations Economic Commission for Africa (UNECA) and the Institute for African Alternatives (IFAA). The forum also received support from the Department of Trade and Industry (dti), BHP Billiton and the Engineering Council of South Africa (ECSA).

As we prepare this volume for publication, we are acutely aware of the financial turbulence in global markets and the damage it can have on the South African economy. Excessive liquidity in the world's financial system has been stimulating speculative capital flows and artificially lifting asset prices, largely unsupported by real economic activity and growth prospects. It has also led to the downgrading of direct investment in the real economy, the results of which we now see in a fragile economic recovery. The developed economies may lie at the core of the problem, but the destabilising effects are being felt around the globe.

In South Africa, too, we have seen a decade of exuberance in financial services without a commensurate expansion in the economy's productive sectors. Since 1994, the combined contribution of mining and manufacturing to gross domestic product (GDP) declined from 28.2 percent to 21.7 percent by 2012. Neither of these sectors has led overall economic growth, nor has agriculture performed any better. Yet a country with such an abundance of mineral wealth, complemented by so much experience and capability in manufacturing and considerable potential in agriculture, cannot pin its hopes for a better future on volatile financial flows and the associated services industries.

The mining sector remains of vital importance to the South African economy, generating R497 billion in total income and R267 billion in value added in 2012, while employing 524 000 people directly and paying R100 billion in remuneration. Its exports amounted to R308 billion in 2012 and its intermediate input requirements totalled R169 billion. Although the contribution by the manufacturing sector to national GDP has declined over time, its total output has certainly not contracted in real terms since 1994, and there is substantial capacity in vitally important sub-sectors such as chemicals, metals and machinery, food processing and beverages.

What emerges in these papers is that both mining and manufacturing could enhance their contributions to the economy if only they could determine far more rigorously what inputs mining could obtain from local manufacturing, and what prospects there may be for beneficiation once the minerals are extracted. In other words, we need a thorough examination of the development potential of the whole value chain, from exploration to extraction, processing, beneficiation, fabrication and marketing, with all the associated linkages – forward, backward and lateral.

This task requires the participation of all, including mining companies, manufacturers and their respective associations, academia, and the public sector at large, in a joint national effort to raise the level of our real economy to its rightful place. It also requires some tough decision-making about the pricing of minerals for domestic manufacturing, the cost of power, the rates for rail and ports, and service delivery across the board, among many other critical factors.

The state has a major supportive role to play in the character of legislation, the balance of private versus public interests, and how it manages the mixed economy generally. State support for the indispensable, yet much neglected, areas of research and development and technical training is critical. Greater certainty is also required in the taxation system, again balancing the national interest with private sector expectations. Mining companies with their headquarters abroad will have to be far more transparent in their reporting and how they avoid unfair gains through transfer pricing.

These issues are now being considered across Africa. The United Nations Economic Commission for Africa, the African Union Commission and the African Development Bank, among others, are discussing the way in which increased value addition can be promoted on the back of Africa's abundant resources in minerals, oil and gas, timber, agricultural land and fisheries. South Africa's experience in these matters could be invaluable, provided we have ourselves developed our understanding more fully and become far more engaged with initiatives across Africa.

After Marikana, the position of labour in mining is also of great concerm. This is all under the microscope and the outcome will likely be a fundamental restructuring of the labour system and the rewards for workers and their communities. Indeed, the whole structure of employment is under scrutiny as we endeavour to escape the unfairness and rigidities of the apartheid economy. Ultimately it must be accepted that, just as labour is an essential factor of production in any economic activity, an economy is meant to serve the needs of its people.

The reader will find much reason for positive thinking in the following pages. Our conference found that the existing interface between mining and manufacturing is a busy place, with a great deal of interaction and mutual benefit. There is also a growing body of literature about beneficiation that is overcoming previous scepticism. What is lacking is an overarching strategy with detailed analysis of how each part of industry can improve the benefits along the value chain, with better outcomes for all. We are encouraging academics and practitioners to do this research.

There is often a lack of trust between the stakeholders and a great deal of grandstanding rather than engagement to overcome disagreements. To the extent that circumstances permit, our institutions shall continue to facilitate these interactions, as we have done in previous conferences. The real world revealed at these meetings indicates that much of what is happening on the ground is positive, constructive and effective. We need a proliferation of such opportunities.

Prof. Ben Turok MP
Chairperson
Institute for African Alternatives (IFAA)

Mr Jorge Maia
Head: Research and Information Department, Industrial Development Corporation (IDC)

The role and vision of the Treasury

An interview with **Pravin Gordhan**

Gordhan is the South African minister of finance. Ben Turok interviewed him on 31 October 2013

Ben Turok: Is there a philosophical vision, a big idea, underpinning the practical measures in the Medium Term Budget Policy Statement (MTBS)?

Pravin Gordhan: The ANC has always had the idea that we have to advance the interests of the poor and the lower middle classes and, at the same time, stabilise and grow our economy, and do so in such a way that we create a society and a nation which is creative, agile and responsive to its own challenges and to the challenges globally. At the heart of our philosophy is human development and human caring, although it gets lost in the mix of data and theories and quantifications.

It's a complex task, in the current circumstances, that requires us to make sure, firstly, that the recovery from the recession remains sustainable and that we continue to grow out of it. Secondly, that we can honestly reflect upon key challenges in our own economy and society and find answers. Thirdly, to keep a careful eye on the global environment. We live in a highly interconnected world and spillovers from both the big developing countries and the big advanced economies impact upon us.

BT: As the minister of finance, where do you stand on the growth-vs-redistribution debate in South Africa?

PG: We need to do both. When we talk about "inclusive growth", we are talking about models which bolster the economy but also ensure that benefits accrue to the bottom 80 percent. Perhaps we had a honeymoon period from the early 2000s until the crisis, when we had good growth, very high growth in revenue, and good redistribution through the fiscus. That's the period during which we were able to expand the social safety net through the child support grant, make lots of investment in infrastructure, the FIFA World Cup itself, and different forms of support to industry also.

Economics tries to understand this complex phenomenon called "the human society". Nobody has got *the* answer. There are very few cases in life where you have an either/or situation. You've got to look for, on the one hand, being progressive and quite clear about your goals and, on the other hand, being pragmatic, so that you can actually do something about them. And that's the big tension we have. Many people have the luxury to be commentators and critics. Others have to actually focus on real institutions and real decisions that make an impact on real lives. We don't have a very good interface between those two sectors at the moment. As a policymaker, you've got to make choices, and learn from those choices as you develop.

BT: But are the government and the Treasury doing enough to explain their policies clearly and decisively? We have five ministers with economic portfolios, and each one speaks with a slightly different nuance.

PG: Globally and within South Africa itself, as you know, this recession has thrown the discipline of economics into the air. You even have [former US Federal Reserve Bank chairman] Alan Greenspan saying he got certain things wrong – after thirty years of believing he could never be wrong.

Secondly, one can't deny that there are different philosophical views, but also ideological strengths, in an organisation like the ANC. We are what we are: a broad church. Ultimately, the ANC's positions are determined at its conferences. It does have a view and its views are embraced, at this point in time, in the National Development Plan (NDP), which has huge areas of overlap with other plans and proposals.

We could do better, I think, to communicate where we want to go. On the fiscal and monetary side, we're quite clear about the way we intend to manage the economy. There are many other areas, like water resources and public enterprises, where there is relative certainty. I think the whole industrialisation/manufacturing debate has settled down. We all know we need it. The question is to deliver it, and get the right balance between state support and private sector initiative. In other areas, the unresolved questions of our democratic transformation are still hanging over our head. That's the big question that we face and there will be different approaches and different points of view taken. That's a challenge that we, as a society – not only government and the ANC – need to come to terms with. We've had some experiments, but we'd now like to go beyond that and get a far more fundamental transformation of the participation and ownership patterns in our society.

South Africa Medium Term Budget Policy Statement, 23 October 2013

Finance Minister Pravin Gordhan has tabled a mini budget loaded with cost-cutting measures, starting in parliament. He managed to keep inside his fiscal constraints, while maintaining spending on social grants and growth-enhancing projects. The salient points:

- **growth downgraded to 2.1 percent of GDP this year**
- **continue on trusted road of spending to stimulate growth while maintaining fiscal stability**
- **spending will grow by 2.2 percent above inflation over the next three years and will stay within the spending ceiling set in February budget**
- **the budget deficit will stay at 4.2 percent**
- **gross revenue collection for the current fiscal year revised down slightly by R3 billion to R895 billion**
- **state debt is still under control and projected to stabilise at about R44 billion in 2017/18**
- **just under 10 percent of total budget, or R110 billion, will be spent next year on debt service costs**
- **R2.3 billion more will go this year for salary adjustments in the civil service**
- **government will try to cut down on wasteful expenditure regarding cars, catering, travel, accommodation and consultants' fees**
- **the growing wage bill in the public sector will get attention**
- **the budget is firmly behind the principles of the National Development Plan.**

Source: www.sataxguide.co.za

BT: All your statements say that you are pursuing a countercyclical policy, which, as I understand it, means putting money into the system in order to overcome recession. You use the word "prudent" quite often, and I can understand why. Sometimes even the word "austerity"…

PG: No. Never. Not me. I'm very clear about that.

BT: That's good to hear. But when you cut back capital spending in particular, that reduces the quantity of funds available for investment. That is not countercyclical.

PG: The best proof is the fact that, notwithstanding the slowing down of growth and therefore slowing down of revenue, we still maintain a 2.2 percent real growth in expenditure. Up to 2009, we grew public spending by more than 10 percent in real terms every year. Secondly, within that spending, there's a fair amount of money going into support for industry and small businesses – although we don't do very well in terms of actually reaching small businesses. Thirdly, because we've borrowed extensively over the last five years, debt servicing costs are going up: R110 billion in the current year, from a very low amount of R20–30 billion five years ago. Then there is the growth in the wage bill. In the last four years, we've had to commit to these above-inflation wage agreements, all of which add up to 35 percent of non-interest expenditure. So you have two factors that are crowding out real capital expenditure.

Within the fiscus itself, there's still a lot of money to spend, but delivery is poor. Whether it's schools or hospitals or other public facilities, we've seen between R15 and R20 billion of under-expenditure every year for the last four or five years.

Much of our larger infrastructure investment spending comes from our SOEs [state-owned enterprises], primarily Transnet and Eskom. We let our DFIs [development funding institutions] carry that burden. But our expenditure record is fairly good. The real issue in the next two to three years is how to reduce debt, and therefore reduce interest costs, and then create more space for investment spending. The commitment to investment spending is certainly there. In the previous budget, you have heard us talking about the importance of switching our spending from consumption to investment. We realise that's an easy statement, but it's not an easy project to pull off.

BT: The spirit of enterprise we saw in 1994 seems to have fallen away. Some people would say it's because the Treasury was too anxious to reduce the debt and was not spending. Is that wrong?

PG: I think what was done earlier was the right thing to do. Capitalist systems are given to booms and busts. During a boom period, you have to recover your strength and space in order to have the capability to handle the bust period. Our living proof is what we were able to do in 2009, when we moved from a surplus of approximately 2 percent to a deficit of 6.9 percent. We demonstrated that we were willing to borrow to safeguard expenditure. But the objective that we must still strive for is the discipline to spend more on investment than consumption. That's the first point.

The second issue in this area is credibility, because South Africa borrows from the markets. If a country doesn't have a strong growth story, or isn't in the advanced-economy world, then it is always viewed sceptically. Ultimately, all of this is not about principle. It's pragmatic management of one's balance sheet so that one does not endanger the country's future. Particularly at times when we would have difficulties.

BT: Does the Treasury pay too much attention to the bookkeeping side and not enough to development and investment?

PG: The commitment to development should not be doubted at all. Remember that the Treasury doesn't deliver the railway lines, the roads, the dams, the houses. We allocate the money. As a government, we've got to make sure that we do that which we are supposed to do.

There are many examples where capital grants to provinces and municipalities have been used for operational purposes. For that, the Treasury can't be blamed. The responsibility lies elsewhere. It becomes a rather regrettable ideological argument, instead of looking at the reality. Unless we build a disciplined state, unless we understand what delivery means, what it means to use limited resources with maximum efficiency and smartness, we will keep resorting to all sorts of philosophical and ideological arguments to evade the core issue: development will happen through efficient delivery. Funds for investment will increase if the state directs funds away from consumption.

Twenty years is a very short time to build effective institutions, although we could have done better. But there are good signs in some areas that effective institutions are being built. At the end of the day, human development depends on the creation of effective institutions. So the question is: have we done that? Do we have an undiluted commitment to making sure that every minute of the day and every ounce of energy and every rand that we have is committed to human development in South Africa? We need a greater commitment to development rather than selfish interests.

In the private sector, also, there are understandable retreats when a recession comes along, but both ourselves and the private sector, and indeed labour, need to work together to create conditions which will enable the private sector to say, "I'm expanding. I'm creating new enterprises." There's a lot of work to do there.

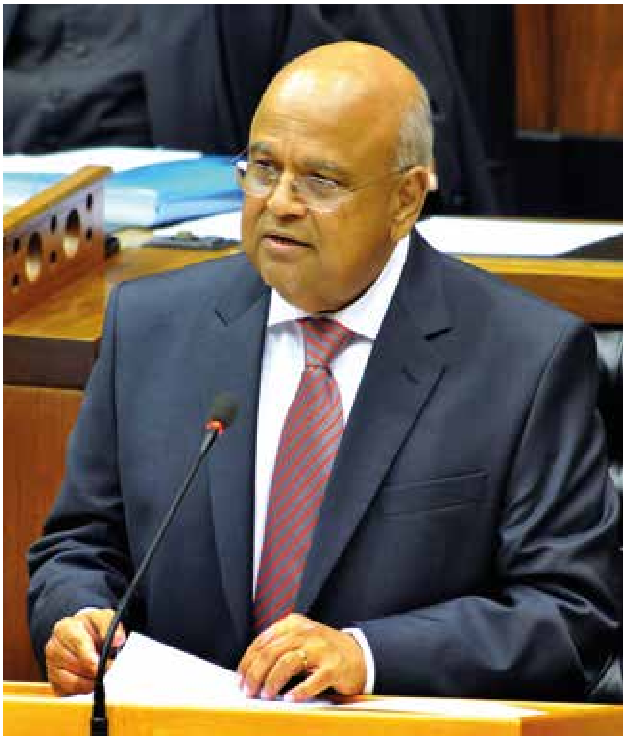
BT: It seems to me that we do require greater commitment. But saying that you need to balance one thing against another creates a certain ambiguity in the minds of your listeners.

PG: No. We've got to balance one thing against another in terms of balancing our books. The key message is that, within our books, there are billions of rands available. We haven't even talked about corruption, tender fraud, rentiers extracting our resources, and tax evasion. We're losing billions of rands there. The problem with some of these discussions is that they very easily become ideological: Treasury is bad, reactionary, neo-liberal, etc. There is a pragmatic side to the Treasury. If I had to sum up my philosophy: I am a progressive pragmatist. I will keep my progressive orientation, but I have to do the things that need to be done. Not just as an individual but as part of an institution and government. They're not contradictions, Ben.

BT: Would it not be a good idea to list those sectors that the Treasury, on behalf of the cabinet, wants to finance and to direct, so that people can see that this government is on track to direct the growth of the economy?
PG: These decisions are made by government as a whole and through the manifesto of the ruling party. There are a couple of areas we could identify from our documents. Firstly, getting better infrastructure in place. But which infrastructure will give the most growth enablement? That's a question we must consider. For the next few years, the energy story is also key, so that we are comfortable that we have enough. The third area we talk about a lot, but do very little, is the so-called "red tape" in the regulatory environment. Government is going to focus on that a lot more now. The fourth area is skills development. If the institutions and the systems work – they don't work too well at the moment – in the next ten years, that will begin to take off and we'll have a different proposition. Equally important is to sustain our investment in education, housing, health and other social needs.

In terms of sectors, agriculture is a huge unexplored area at the moment. Then there are the sectors identified in IPAP [the Industrial Policy Action Plan]. Many of those programmes support individual businesses, which will pay dividends over time. Some of them will fail, given the nature of these things, but that's a necessary experiment we have to go through. Another area is innovation and research, where there's a lot of excellent nascent work being done but we're not scaling it up. It seems that we don't have the right connectivity between universities, research councils and business.

A major area of focus is trade and tradables. A more dynamic approach would give us better access to African markets. Anybody who wants to enter Africa will come to South Africa first, 80 percent of the time, because of our business infrastructure. We have to begin to create regional infrastructure and look at the services. There too we have blockages in the way we think: "The services sector is bad. It doesn't create good jobs." But take mining services. South Africans, who have developed expertise over a hundred years, are now selling capital mining equipment and services to many parts of Africa.



If we support that, that's a huge plus. So there *is* a story to tell. Mining will still remain an important part of our economy. If we can add the manufacturing part to create the linkages, as you are saying here, then there's a story to tell there as well.

So there are many things that we are doing, but I think your point is valid: we need to sharpen the focus and understand that there's no perfect formula that is going to get us to the next stage of development. It's going to be hard work and experimentation, and there's going to be a mixture of successes and failures.

BALANCE OF TRADE

BT: Can we turn to the current account deficit? There are two issues there. One is: can't we curb imports? The other is protection. UNCTAD [UN Conference on Trade and Development] says this is legitimate when you want to protect infant industry, but you don't protect forever.
PG: Look, we need a more holistic approach to the current account. Of that 6.5 percent deficit, 1.2 percent is attributed to so-called transfers to SACU countries. Often in the talk of current account, that doesn't feature. There's nothing much we can do about that now, but that's a significant factor and it's unique to us.

On the export side, mining industry events did damage us and our manufacturing sector is not as agile as it would appear. But global demand is weak as well. The rand has been within the US$9.50 to $10.50 range for a long time now. Although somewhat volatile, it's still volatile within that range. Where are the results? Some manufacturers talk about basically putting up a wall around South Africa. Nothing must come in – end of story. I don't know who will trade with the country if we don't allow anything in. We've got to focus on the export side and ensure that we produce tradables that there is a demand for externally.

The other issue is that we don't have all the technology capabilities here, particularly if we're doing more coal-powered and nuclear-powered stations. That's going to involve an import of technology, so we're going to have to live with some amount of current account deficit for some time.

BT: Wouldn't curbing luxury consumption imports be important symbolically?

PG: It's the number that's important. One of the issues we've got to manage carefully is signalling – to whom, and for what? Will we end up in the wrong place through signalling? I have a preference for saying "let's do things" as opposed to "let's talk about things", because that is ultimately what creates confidence. It's not the talk.

BT: An editorial in *Business Day* [28.10.13] said: "the deficit budgeting is still expansionary and does still aim to provide some support for the economy, [but] much of the stimulus… is for consumption, not investment."

PG: That's the switch we've got to make.

BT: Is the cabinet doing enough to switch from consumption to investment?

PG: We could do more, and will continue to endeavour to find funds for investment.

BT: This is the critical point. We are not an investment country, clearly.

PG: But it's not just about state-led investment. Remember that two-thirds of investment comes from the private sector. We must get more investment from the private sector and work harder at creating the conditions for higher investment levels. I believe government has done a lot in the past year

BT: True, but the state can still lead.

PG: And we are still leading – four, five years into the recession, government is playing a key role in employment in investment and in supporting economic growth.

STATE-OWNED ENTERPRISES

BT: State guarantees to SOEs: are you in favour of that?

PG: Guarantees help the SOEs to borrow at a cheaper rate. Transnet has none or very few guarantees from the state because their balance sheet is strong enough. In fact, Fitch [Rating Agency] upgraded them yesterday. Eskom, on the other hand, needed to be provided with guarantees, so that the fiscus does not have to find the money but they could borrow on their balance sheet. And then you'll have other smaller examples – SAA, SABC, and so on. The bottom line: state guarantees are there in order to lower the cost of borrowing.

The real issue is how efficient these enterprises are. How efficiently is the money spent? How dynamic are they in terms of meeting the national goals? Many of them are, and should be supported. But in a monopoly situation, there's always a tendency to allow an institution to become a bit lax. It's that balancing act that we need to get right.

BT: Does the Treasury want SOEs to provide services or create surpluses for profit?

PG: We must firstly distinguish between institutions. The first model is a delivery institution where the government asks for some recovery of costs and will subsidise the rest. The second is a commercially viable enterprise that stands on its own feet without subsidies from the state, although there might be capitalisation from time to time. The third is where it actually produces a surplus. There were periods when Eskom and others paid big amounts in tax. That's not unwelcome! I think we need to take different entities and locate them in the spectrum. Our key interest would be that they don't become too reliant on the state, that they do generate enough money to keep the enterprises going, and that they run a disciplined financial show.

SEEKING COMMON GROUND

BT: Why is it that South African business and the ANC government find it so difficult to come together?

PG: The narrative we have been trying to develop is about finding more common ground between business, labour and government. In the mining area, what the deputy-president and others did, putting the CEOs into a closed room with the unions and ourselves, has produced results. Different fora have been created where the engagements can actually happen. There are many initiatives, including one by the president, for both labour and business to create common ground among us.

Not all of it gets into the media, but in the last year we have spent an enormous amount of time talking to different groups, trying to bring them to a point where they could find common ground. We certainly want to create a climate of mutual confidence and trust so that we can get government and business working in the interests of the country.

Making the most of Africa's commodities:

Industrialising for growth, jobs and economic transformation

By **Adam Elhiraika**

The author is chief of the forecasting section of the macro-economic policy division of the United Nations Economic Commission for Africa

The United Nations Economic Commission for Africa (ECA) works on economic development and regional development issues in Africa, focusing mainly on regional integration and socio-economic development. My presentation looks at why African countries have not been able to add value to their commodities and how they can do that. It draws on the 2013 Economic Report on Africa (ERA2013)*, a joint product of the ECA and the African Union Commission (AUC), which looks at the state of value addition in a sample of ten African countries, including Algeria, Cameroon, Egypt, Ethiopia, Ghana, Kenya, Nigeria, South Africa and Zambia.*

The question of beneficiation is critical for Africa to promote high-level sustainable growth and to achieve economic transformation. African countries have, almost since independence, depended heavily on primary commodity exports. Right now, commodity exports account for one third of Africa's total gross exports. This is huge. But the opportunity costs are very high. Many African countries have not been able to promote employment and inclusive development because of this high dependence on commodities.

KEY MESSAGES

So let me begin with a few key messages.

- African countries are growing. Over the last ten years or so, Africa's average growth rate has been around 5.5 percent and it has been sustained and shared across the continent. But this remains far below Africa's growth potential.
- ERA2013 says that massive industrialisation based on commodities, on beneficiation of exports across sectors, is both possible and beneficial.
- There is evidence of value addition across Africa, but it remains very limited. One of the striking examples in the report shows that only 10 percent of the income generated through the global value chain of coffee grown in East Africa goes to African countries: 90 percent goes to consuming countries. So, there is a huge potential and huge income is lost.
- Success requires firms to have a good understanding of the critical factors that influence linkage development.
- Effective industrial policies and development plans are critical for Africa to address constraints and industrialise.
- Trade agreements, intra-Africa trade, and regional integration must be used to foster Africa's industrialisation. Also, Africa needs a fair common position on trade negotiations and economic partnership agreements.

Economic growth has strengthened as political tensions eased across the continent. Although primary commodity production and exports contribute about one-third of the growth in Africa, other factors are also important, including domestic demand due to urbanisation and a growing middle class, increased trade and investment ties with emerging economies, and improved governance and management across Africa. Despite the things we see on TV, overall governance is improving slowly across the continent. These are the key factors.

However, export diversification remains weak. Africa's production and exports are still heavily concentrated, dominated by one or a few commodities. Africa is higher than all other developing regions in terms of export concentration. The same is true for the concentration of aggregate GDP. (So it is not necessarily the case that the decline in the contribution to GDP of manufacturing and other sectors means they are declining.) High commodity prices over the last fifteen years or so have led to this increased concentration.

High revenue is lost from not adding value. Countries such as Cameroon, Côte d'Ivoire, Ghana, Nigeria, and others are significant producers of cocoa but do very limited processing. More than 80 percent of cocoa produced in Cameroon is exported as raw cocoa. On the other side of the spectrum, Mexico produces almost no cocoa but more than 95 percent is processed and sold in end markets for high value.

We also looked at value-added content in six stages of timber production and processing timber in selected developing countries. Again, countries like Cameroon, Congo Republic, Côte d'Ivoire and Ghana are doing little processing, while other countries –such as Peru – are producing processed timber products.

The benefits from adding value and linkage development go far beyond revenue. These include:

- employment and income effects
- price benefits and stability
- diversification of local technological and industrial capabilities
- lateral migration into other sectors
- efficiency gains of cluster development
- positive spillover effects in terms of knowledge and information, economies of scale, and so forth.

POLICIES FOR LINKAGE DEVELOPMENT

We looked at firm-specific or structural factors that relate to the nature of products and how they are produced. These might not be easy for government to influence. But there are other factors that governments can influence, including ownership, infrastructure, local content policy, skills development and so on. This sets the stage for ERA2103.

A literature review of factors that influenced linkage development in other developing regions, especially in Asia and Latin America, shows that ambitious government policies for the resource sector are critical for promoting linkage development. Domestic markets are also necessary in order to move up the value chain. Other critical factors include marketing linkages and marketing strategies, domestic firm capabilities and partnerships, industrial policies, export restrictions, and fiscal incentives.

I will just go quickly through the key findings of the research, focusing on the constraints and opportunities of linkage development and the policies needed for African countries to increase linkage development and value addition.

To examine the depth and breadth of local linkage development, or beneficiation, we considered: technical features of the value chains; industry structure; lead firm strategies and critical success factors; location and infrastructure; industrial policy; and trade restrictions, standards and other constraints.

SOFT COMMODITIES

Cocoa exports from Ghana, Nigeria and Cameroon were studied. Cocoa has four stages of production. Stage 1, cocoa beans, is the most important stage for the three countries. Stage 2 is cocoa shells; stage 3 is cocoa paste; stage 4 is cocoa butter and powder; and stage 5 is chocolate – which is extremely limited in all three countries.

The different countries have different trajectories of value addition. Nigeria has forward integration into final and intermediate markets in global value chains (GVCs). This was facilitated by increased domestic and foreign investment and by Nigeria's relatively large markets domestically and within the sub-region. However, there are many factors that constrain processing in Nigeria. These relate to quality, lead times (firms' ability to supply products in time), trust, and weak buyer co-operation. Constraints also exist relating to raw materials, capital, infrastructure, and market penetration – especially into the EU market. In Ghana, they are also growing forward integration into intermediate stages of the GVC, but there are a lot of factors that constrain value addition, related to capital, infrastructure, the cost environment, and policies for growers. In Cameroon, the situation is static. As we have seen, over 80 percent of their cocoa is exported as raw product.

Another study looked at coffee, tea and agro-processing value chains in Ethiopia (coffee) and Kenya (tea and fresh vegetables). There are opportunities for upgrading linkages in all three, but they are not grasped because of competition for raw commodities between exporters and processors. Producers sometimes find it more profitable to export raw commodities instead of selling locally, because of marketing linkages, finance, and so on. The specific critical success factors that constrain linkage development in the coffee market in Ethiopia relate to price, quality, trust, lead times and access to inputs and skills. But most importantly, there is no specific policy in Ethiopia on forward linkage development or inserting local firms into regional and global value chains. To some extent, the same is true in Kenya, where policies on forward linkage development are also lacking.

In the textiles industry, Egypt is one of the countries that survived the stiff competition coming from China and India over the last ten years, but still it faces a lot of challenges, including security, corruption, access to finance, the general policy environment, labour costs, skills availability, access to external markets, road transport networks, poor infrastructure (including power), import tariffs on imported goods, availability and quality of inputs and the cost environment.

Ethiopia's leather/hide exports have shown great results, demonstrating how simple government interventions can make a huge difference. The Ethiopian government introduced a local content policy and a 150 percent tax on the export of hides; at the same time, it provided support to the leather industry in the form of credit and skills development.

This simple policy was very effective. Ethiopia now exports 90 percent of its hide as quality processed leather, rather than rawhide, and is the second highest exporter of fine leather in the world by value. The domestic shoe industry is expanding and a lot of investment is coming into the country because of the quality of leather produced. This is one example of how industrial policy can really be effective without being costly.

HARD COMMODITIES

Now we come to linkage development in the mineral sector – an area that relates very much to the interface between mining and manufacturing. We looked at the oil sector in Nigeria, copper in Zambia, and gold in Ghana.

A lot of people are aware of the limitations in the oil sector in Nigeria, including the fact that Nigeria still does not refine enough oil for domestic consumption. Investors who tried to refine oil in Nigeria have been frustrated by the companies that want to export crude oil. However, there is some linkage development because of a local content policy that the government is trying to enforce in order to increase oil refining and processing in the country. Other areas that require government intervention include infrastructure, safety, and corruption. The copper industry in Zambia is huge, but linkage development remains very limited: there is no real processing or upgrading, and the policy framework is weak. In the gold sector in Ghana, we observed growing linkages, but from a very low base. A local content policy that was recently introduced can help this sector to grow.

ERA2013 shows the linkages from South Africa's mining sector to the rest of the economy, which Jorge Maia has explained in much greater detail (see pages 18-22). The benefits he talked about are real benefits that other African countries can grasp with the right policies and right interventions.

What are the key issues encountered by different African countries in different commodity sectors? First of all, effective government industrial policy is critical for promoting linkage development. Second is the issue of infrastructure, and third is skills development.

Critical success factors vary by sectors and value chains in soft and hard commodities. The specific success factors identified by firms include price competitiveness, quality, flexibility in production, lead times, learning/innovation, and trust.

To summarise, the factors that drive linkage development are varied across Africa. If you want country-specific interventions to be effective, then you need more research to identify country-specific drivers – and research is limited in most of these countries. The nationality of lead firms is important, and access to end markets. Firm capabilities and supplier development programmes are critical. Infrastructure, both hard and soft, is crucial. As are government capabilities in both skills and institutions, including the ability to design and implement policies and to overcome policy misalignment or lack of co-ordination across various departments and ministries. In the end, policies have to be appropriate, well targeted, evidence-based, prioritised, monitored and incentivised in order to be effective.

MAKING THE MOST OF AFRICA'S COMMODITIES

We conclude this report with a nine-point policy framework for promoting linkage development across Africa.

First, countries need to adopt a coherent policy framework. Second, countries need to create an institutional industrial policy mechanism. Across Africa, we have seen countries that have an industrial policy blueprint, where they create incentives – provide tax holidays and so on – to attract investment into priority sectors. But this has not been effective most of the time because the governments do not have the ability or framework to work with stakeholders in the private sector to identify specific activities and more specific interventions that can make a difference. In the Ethiopian example, the government worked with leather producers to identify the critical success factors and key constraints. Then they designed small but very effective interventions that made a huge difference. The framework also recommends:

- developing local content policy
- raising lead firm procurement, sourcing and processing
- supply-chain development programmes among major commodity firms
- the development of local skills and technologies
- negotiating regional trade agreements and fostering intra-Africa trade
- addressing sector-specific infrastructure bottlenecks
- co-ordination across ministries and departments, between government and the private sector, and with institutions such as the development finance institutions.

We have been talking to the Industrial Development Corporation (IDC) about how this industrial policy framework in South Africa works. That needs to be the case in other African countries, if industrial policy is to be effective.

NOTE

The *Economic Report on Africa 2013* downloaded from www.uneca.org/publications/economic-report-africa-2013.

The mining-manufacturing interface in the South African economy

By **Jorge Maia**

The author is head of the department of research and information at the Industrial Development Corporation of South Africa Limited (IDC)

The structure of the South African economy has changed substantially over time. It has expanded at an average rate of 3.3 percent per year since 1994, with a gross domestic product (GDP) 77 percent larger in real terms (i.e. at constant 2012 prices) by 2012. The pace of economic growth has been volatile though, and strongly correlated with the performance of the global economy.

The manufacturing sector claimed the dominant position in 1994, when it represented close to 21percent of GDP at current prices. By 2012, however, the sector was only the fourth largest in the economy, with a 12.4 percent share of overall GDP. The broad financial services sector, largely driven by a strong banking services industry, had taken over the leading position. The mining sector's contribution to GDP, in turn, rose from 7.3 percent to 9.3 percent.

The relative decline of manufacturing as a contributor to overall economic activity has been a generic global trend. However, compared with the peer grouping of middle-income countries, South Africa's manufacturing sector saw its share of GDP decline at a faster pace between 1970 and 2010. The developing East Asia and Pacific region contrasted sharply, with the manufacturing contribution rising until the onset of the global economic crisis, when the impact of collapsing world trade flows took a toll.

It should be noted, however, that the performance of individual sub-sectors of manufacturing in South Africa varied widely, although most have faced strong competition from foreign players in both local and external markets, among other challenges.

The picture is completely different for services. The contribution made by the domestic services sector to GDP has mirrored the world average and trend, but has been substantially higher than the average for middle-income countries. The services sector has been the pillar of growth in the South African economy since the early 1990s, driven by a strong financialisation trend, the proliferation of business services and the substantial expansion of the telecommunications sector.

MINING AND MANUFACTURING EXPORTS

The share of mining sector products in South Africa's merchandise export basket fell from 53.8 percent in 1994 to a low of 31.4 percent in 2003, largely as a result of the successively smaller contribution made by gold mining exports. The rise of platinum group metals (PGMs), iron ore, coal and other mineral exports, complemented by higher commodity prices until the onset of the global economic crisis, boosted the contribution of mining exports to the overall basket to 46.8 percent by 2011.

The ratio subsequently declined to 44 percent in 2012, largely due to the sharp fall in the value of PGM exports as the domestic industry faced a very difficult year. Gold exports claimed a 10.1 percent share of the overall merchandise export basket in 2012, followed by PGMs (9.3 percent), iron ore (8.8 percent) and coal exports (8.2 percent).

Manufactured goods, in turn, claimed a larger share of the merchandise export basket at 51.6 percent of the total in 2012, compared to 41.2 percent in 1994. However, it fell short of the 64 percent peak attained in 2003. The following were the leading manufactured export categories in 2012: motor vehicles (7.6 percent of total merchandise exports); basic iron and steel (7.3 percent); parts and accessories for motor vehicles (3.7 percent); and basic chemicals (3 percent).

Manufacturing exports are highly concentrated, with the top 20 manufacturing sub-sectors – out of a total of 120 – accounting for 77 percent of South Africa's manufactured export basket in 2012. Furthermore, almost 60 percent of South Africa's exports consisted of gold, PGMs, iron ore, coal, motor vehicles, iron and steel, and non-ferrous metals. This highlights the imperative of diversifying exports by means of increased value-addition to the country's mineral resource wealth and effective re-industrialisation efforts.

The geographical destination of South Africa's exports has also changed considerably since 1994. New markets have emerged while the relative importance of certain traditional export markets has declined. This is particularly the case with the United Kingdom, Japan and Switzerland. The relative importance of the United States and Germany as export markets has also been reduced, albeit to a lesser degree.

China emerged as South Africa's most important export trading partner in 2009, with its share of non-gold merchandise exports measuring 12.9 percent by 2012, compared to a mere 0.8 percent in 1994. India claimed fifth place as an export destination in 2012, having overtaken both the United Kingdom and Switzerland. A number of African countries, such as Zambia, Mozambique, Zimbabwe and the Democratic Republic of Congo, have also become increasingly important export markets, especially for South Africa's manufactured goods.

About 51.6 percent of South Africa's exports to the world at large in 2012 consisted of manufactured goods, with mining products representing 44.2 percent of the total and agricultural exports claiming a mere 4.2 percent share. However, the composition of the export basket varied considerably at the regional and individual country level, with commodity exports featuring strongly in countries such as China and Japan, while Europe, the United States and the rest of the African continent were important destinations for South Africa's manufactured exports. This indicates that the country's manufactured products can compete effectively in global markets, both in advanced and developing economies.

To illustrate: exports of motor vehicles, parts and accessories represented 21.3 percent of South Africa's relatively diverse merchandise export basket destined for European Union (EU) markets in 2012, with catalytic converters comprising a considerable portion of the components segment. Other important export products to the EU included platinum, iron and steel products, agricultural products, coal, non-ferrous metal ores, iron ore, industrial chemicals, beverages, processed food and a variety of other manufactured and mining products.

Exports to the rest of the African continent in 2012 were far more diversified and overwhelmingly dominated by manufactured products, including non-electrical machinery (14.9 percent of total exports destined for African markets), particularly mining equipment; motor vehicles, parts and accessories (12.4 percent); processed food (8.8 percent); and iron and steel products (7.7 percent). Industrial chemicals, petroleum and petroleum products, other chemical products, metal products, electrical machinery, and paper and paper products also featured strongly.

The relative importance of mining equipment exports illustrates a successful aspect of the historical interface between South Africa's mining and manufacturing sectors, which led to the development of a globally competitive mining equipment industry. Understandably, the National Development Plan 2030, the New Growth Path and the various iterations of the Industrial Policy Action Plan all target the further development of the domestic capital equipment industry, with a strong export orientation.

In sharp contrast, exports to China in 2012 consisted overwhelmingly of mining products, particularly iron ore (47 percent of the total); non-ferrous metal ores, excluding gold and PGMs (17.2 percent); coal (11.2 percent); and platinum (2.1 percent). Iron and steel (7.5 percent) and industrial chemicals (2.4 percent) dominated manufactured exports, while motor vehicles, parts and accessories represented a mere 2 percent, and processed food products a miniscule 0.8 percent.

The challenge for South Africa's export sector is, therefore, to enhance its global competitiveness and value-addition, to diversify its product offer and penetrate non-traditional markets, especially in rapidly growing emerging and developing economies.

THE MINING SECTOR

The mining sector has become increasingly diversified, progressively exploiting South Africa's enviable mineral resources endowment. The gold mining sub-sector is a mere shadow of its past glory, accounting for only 20.6 percent of mining sales in 2012 – a fraction of the 67.1 percent recorded in 1980 or the 49.2 percent in 1994. The adverse trend was underpinned by steeply falling gold production as deposits became increasingly difficult to access.

The PGMs segment has in turn grown notably in importance, representing 18.6 percent of the mining sector's sales in 2012, compared to a 5.5 percent share in 1980 (11.4 percent in 1994). Similarly, the coal segment saw its contribution rise from 9.7 percent in 1980 to 20.4 percent in 1994, and further to 25.7 percent by 2012, propelled by domestic power generation requirements and export demand. Iron ore represented 17.1 percent of mining sector sales in 2012, with other important segments including manganese, chromite, copper, nickel, zinc, as well as quarrying products.

The mining sector's relative contribution to South Africa's exports has declined since 1970, with the value of mining exports being somewhat lower in real terms. Mining exports amounted to R308 billion (at current prices) in 2012. Mining sector employment contracted enormously from the 1970s through to the 1990s, but has since recovered slightly to 524 000 by 2012. The mining sector's average share of overall GDP rebounded in the 2000s, largely on the back of the global commodities boom, which was supported by the emergence and expansion of new sources of demand for various minerals. The value-added (GDP) by the mining sector in 2012 totalled R267 billion.

Key segments of the mining sector have been under considerable pressure since the onset of the global economic crisis. The platinum segment is a case in point, due to the impact of weaker demand for motor vehicles (and hence for catalytic converters) in world markets. The recent slowdown in China has also weakened demand for a variety of commodities and their respective prices, which has affected the domestic mining sector as a whole. Demand-side challenges have been compounded by production stoppages related to safety and industrial relations issues, particularly since 2012.

The mining sector plays an invaluable role in the South African economy, particularly through its generation of foreign exchange earnings, but also in terms of value-addition and employment. Moreover, it generated a total income of R497 billion in 2012, paid R101 billion in remuneration to its workers, contributed R21 billion in corporate taxes to the fiscus, and paid R12 billion in dividends to its shareholders. Its fixed investment expenditure totalled R75 billion in 2012.

MINING SECTOR LINKAGES

More than 81 percent of the mining sector's overall spending on its intermediate input requirements, valued at R169 billion in 2012, was sourced from domestic suppliers of goods and services.The import leakage (i.e. direct import requirements) was thus estimated at approximately R33 billion.

Its spending in the local economy, often referred to as "backward linkages", benefitted the following sectors: machinery and equipment; transport equipment; wood products; fabricated metal products; non-metallic minerals (cement, bricks, etc.); chemicals and petroleum products; electricity; water; transport services; construction and civil engineering; finance and business services. The first six sectors are in manufacturing, while the last are services sectors.

The mining sector's "forward linkages", or its supply to consumers, largely pertain to the following sectors: basic metals (mainly the basic iron and steel sector, which consumes iron ore); motor vehicles, parts and accessories (e.g. PGMs for catalytic converters); chemicals (e.g. phosphates for the fertiliser industry); petroleum refineries (e.g. coal for Sasol); electricity (e.g. coal for Eskom); construction and civil engineering (e.g. building materials); and other industries such as jewellery manufacturing (e.g. gold, platinum).

The economy-wide impact of the mining sector in 2012 may be illustrated as follows:

- direct impact on GDP (value-add) amounted to R267 billion
- the sector employed 524 000 workers
- spending on the consumption of goods and services in the domestic economy (the "first round impact") resulted in an additional R70.7 billion in value-addition and the employment of 206 920 people directly linked to that procurement
- these beneficiary sectors were in turn supplied by other sectors (the "indirect impact"), generating value-addition worth a further R43 billion and sustaining 126 970 jobs
- the earnings expenditure by all of those employed (whether directly by the sector or through its first round and indirect impacts) in the domestic economy (e.g. in retail stores, entertainment etc.) is known as the "induced impact", which in turn is estimated to have generated R155.5 billion in value-addition and to have sustained some 487 620 jobs.

Adding all of this together reflects the total impact of the mining sector across the economy –a R536.1 billion contribution to GDP and 1.35 million jobs sustained.

Through the substantial inter-industry linkages with supplying and supporting industries elsewhere in the economy, the sector's overall contribution to the South African economy is thus significantly larger than its own direct impact.

The impact of mining and its related activities throughout the economy is particularly evident in terms of job creation and value-addition in the following sectors: financial and business services (around 10 percent of the value added by this sector and 181 040 of its employment were either directly or indirectly associated with mining sector activities in 2012); trade, catering and accommodation (10 percent of value added and 163 417 jobs); and transport, storage and communications (24 percent of value added and 84 461 jobs).

THE MANUFACTURING SECTOR

Although diversified, South Africa's manufacturing base is dominated by the chemicals, metals and machinery, and the food and beverages sectors.

The chemicals sector's contribution to overall manufacturing GDP increased from 18.6 percent in 1994 to 22.7 percent by 2012, while the share claimed by the metals and machinery sector remained basically unchanged at just over 20 percent. The food and beverages sector saw its contribution rise substantially, from 16.8 percent to 22.1 percent. In contrast, the textiles and clothing sector and furniture and other manufacturing, contributed substantially less to manufacturing GDP in 2012.

The manufacturing sector's relative contribution to overall GDP and employment has declined over the past four decades. However, a contracting share does not necessarily imply a decline in output levels. Manufacturing GDP in fact tripled in real terms from 1970 to 2012. The sector also became increasingly export-oriented, with its share of total merchandise exports being substantially higher by 2012.

Manufacturing's declining share of overall GDP thus reflects an inferior growth rate (averaging a mere 2.8 percent between 1994 and 2012) relative to other sectors of the economy. Nonetheless, various sub-sectors of manufacturing with substantial linkages to mining experienced relatively high average growth rates post-1994, at least until the recent economic downturn. These included chemicals; metals and machinery; transport equipment; and electrical machinery. However, certain manufacturing sub-sectors have indeed contracted, such as textiles and clothing.

While several manufacturing sub-sectors largely serve the domestic market, others rely heavily on export markets. Either way, competitiveness is critical to their success as fierce competition prevails across the board. Numerous factors have affected their performance over time, including domestic and/or external demand conditions; currency movements; access to and cost of capital; labour-related issues (wages, productivity, industrial relations, legislation); other input costs and pricing practices (e.g. import parity pricing); extent of technological upgrading; policy support; power supply and escalating electricity costs; transport infrastructure and logistics support; regulatory aspects; tariff protection; and competition/concentration issues.

THE INTERFACE

The South African mining sector's demand for intermediate inputs rose from R129 billion in 1992 to R169 billion by 2012 in real terms. Domestic sourcing as a percentage of the total declined from 85.2 percent to 81.2 percent over this period, with the balance being imported from foreign suppliers.

However, the share of manufactured goods within this demand has fallen sharply over time, from 50 percent of the total in 1992 to 30.6 percent by 2012. In relative terms, spending on machinery and equipment – the largest component of intermediate demand for manufactured products in 1992 – fell substantially over the period.

In contrast, services-related activities saw their relative share of mining sector spend rise considerably, from a combined 49 percent in 1992 to 68 percent in 2012, with the transport and storage sub-sector claiming the bulk of the increase.

A number of sectors rely on mining as a key source of demand for their respective products and services. Eight of the top ten are manufacturing sub-sectors.

The rubber products and machinery and equipment sub-sectors each sold 17 percent of their output to the mining sector in 2012. Additional manufacturing sub-sectors that relied significantly on mining sector procurement included other transport equipment; wood and wood products; other chemicals; and metal products, excluding machinery.

The top ten supplying industries employed 104 000 workers in 2012, or 14 percent of their combined workforce, due to their direct linkages with the mining sector. Sixty thousand of these were in the transport and storage sector, and 20 000 in machinery and equipment. Including the indirect and induced effects, the total number of jobs in the leading ten supplier industries associated with mining sector activity amounted to 345 000 in 2012. More specifically, the identified manufacturing sub-sectors employed some 40 000 workers directly and an additional 145 000 economy-wide through demand for their output by the mining sector.

The importance of the inter-linkages between mining and manufacturing from an employment perspective is particularly evident through multiplier effects. The employment multipliers of the various mining sub-sectors are smaller than those of most of their top ten supplying industries. This is especially the case where the basic chemicals and other chemicals sub-sectors of manufacturing are concerned. The basic chemicals sub-sector has a multiplier of 11.2, implying that, for every direct job, 11.2 jobs are being supported economy-wide. This illustrates the importance of enhancing the mining sector's linkages with other sectors of economic activity, particularly those with higher employment multipliers and value addition potential.

On the supply side, mining sector sales to other domestic industries for intermediate consumption rose from R120 billion in 1992 to R319 billion in 2012 in real terms. Domestic manufacturing-sector demand for mining products represented 77 percent of the total in 2012, somewhat lower than the 86 percent level recorded in 2002.

POSITIVE SPIN-OFFS OF AN ENHANCED INTERFACE

A greater interface between mining and manufacturing would not only benefit the two individual sectors but the economy at large.

An increased supply of mining sector products for further processing or value-addition by an expanding domestic manufacturing base would tend to reduce the mining sector's vulnerability to external demand conditions. In the process, it would lower the commodity concentration of South Africa's export basket, helping to mitigate the susceptibility of the current account to commodity price fluctuations, and potentially also reducing exchange rate volatility.

It would contribute towards expanding and diversifying the country's industrial base, as well as related services sectors. Economies of large-scale production could lead to improved competitiveness in a number of manufacturing sub-sectors, impacting positively on domestic procurement, potentially raising the export propensity of South African manufacturing and reducing import penetration. Domestic manufacturing competitiveness could be further enhanced by competitively priced inputs, including those emanating from the mining sector.

Greater collaboration in research and development of mining technology and innovative applications of mining and/or beneficiated products could have positive spin-offs for sectoral competitiveness, again raising demand for both mining and manufacturing output. Such co-operation could also extend to infrastructure sharing and improved logistics co-ordination, potentially reducing the associated costs.

An enhanced interface between mining and manufacturing would thus tend to have positive implications for the domestic operating environment, including cost structures, thereby raising South Africa's attractiveness as an investment destination for both local and foreign investors. Significant employment creation and skills development would be among the likely outcomes, improving welfare and providing a greater degree of socio-economic stability.

NOTE

All tables and figures from Mr Maia's presentation, as well as those of the other participants, can be found online at www.idc.co.za/interface.

The South African metals and engineering industries

By **Henk Duys**

The author is president of the Steel and Engineering Industries Federation of South Africa (SEIFSA)

I'm an entrepreneur and an employer and I happen to hold an office in the Steel and Engineering Industries Federation of South Africa (SEIFSA), a fairly large organisation of employers. I hope to be able to give you some perspective of who we are and what we do and what contribution we can make to the economy and the challenge of beneficiation in South Africa. I might just add that we are not all manufacturers. We do have huge manufacturing interest but we are also very diverse. I am going to bring up the model of interventions and the problems that we have and what kind of interventions we should be taking. Then I'm going to make a "crystal ball" statement with regards to the potential for employment creation.

A large section of the sector is made up of small businesses. In the metal industry in South Africa in 2012, 11 083 companies directly employed 421 456 workers. Of these, 8 093 (73 percent) of the employers employed only 48 208 workers (11 percent), which means that each of those companies had, on average, only 6 workers. Another 3 000 employers employ 370 000 employees, an average of 125 workers per company. If you break it down further, 5 percent of the companies – that's only 140 – employ 270 000 people in our industry.

It's a very skewed industry, very complex, very large, diverse in activity and location. It suffers from many accidents of history, such as centralised bargaining. It's heavily unionised, and agreements have been made binding on parties who mostly don't participate in the bargaining process. It's a very strong industry. It has R92 billion invested in its benefit funds and it has a skills overlap across many different industries. Many workers and skills are also employed in other industries. Therefore, it's difficult for us to establish what our stock of skills is and what we need. We actually don't know, and that's one of our problems.

The bulk of those large employers – 2 200 – are members of SEIFSA and 240 000 of the workers, just about 50 percent, are employed by SEIFSA companies. SEIFSA has a long history. It is a federation of 27 associations and the largest organisation of manufacturers in the country.

> Since our current direct employment is close to 500 000 persons, we need to aim for another million new direct jobs in the metal sectors by 2030.

CONCEPT FOR SECTOR INTERVENTION

Turning to the value chain: we have inputs (domestic and imported), we add value to them, and we produce outputs. Imported product and domestic product make up our domestic expenditure and we also export.

We've identified seven intervention points that we think should be looked at. First, we need to secure domestic supply of input products. We should incentivise our production, we should scrap exports

of scrap, and we should tax our exports. Second, we should secure our import supply of input products, and protect against imports through interventions such as tariffs, quotas, import parity and pricing subsidies.

Third, on the value-added side, we need to build our capacity through incentives for investment, through competition and so forth. Fourth, we need to prevent and/or enhance our exports, so we need to build our competitiveness. Fifth, we have to build our domestic production, again through competitive interventions. Sixth, we need to secure the import supply of input products on the value-added side and protect against imports, again through tariffs, quotas, import parity pricing and pricing subsidies. Seventh is infrastructure. We need to talk about our intellectual properties, our education, our training, our physical infrastructure and everything else that supports our industries.

To make a long story short, we obviously need an agreed roadmap. We have to agree with all our stakeholders what we want to do and where we want to go. And once we've done that, it's going to take short-term and medium-term sacrifices and cost.

We need a co-ordinated industrial policy. With respect, we don't have a common industrial policy. We need a business-friendly government. This government cannot survive and cannot grow this economy without business and, I venture to say, it is far more labour friendly than it is business friendly. We need to decide on the interventions and implement with vigour. We need boldness. And so, we need leadership. Why? Because for us to succeed we have to have world-class quality, we have to have a globally competitive cost, we must have stable production and we must continuously improve. Those are the recipes, and we can ask ourselves what ingredients we have, and what we don't have, and what we're going to do about it.

The National Development Plan calls for tripling our GDP by 2030 and, logically, our industry should also have tripled by then, if not more. Since our current direct employment is close to 500 000 persons, we need to aim for another million new direct jobs in the metal sectors by 2030. This has a huge downstream multiplier effect as well.

> It's a very skewed industry, very complex, very large, diverse in activity and location. It suffers from many accidents of history, such as centralised bargaining. It's heavily unionised, and agreements have been made binding on parties who mostly don't participate in the bargaining process.

Localised manufacturing:
More effective support is needed

By **Guy Harris**

The author is the group stakeholder-relations director at Bell Equipment

A lot of people confuse us with Bell Helicopter and Bell Telephone, but Bell Equipment is very much a home-grown South African company. Irvine Bell started the company in Empangeni about 60 years ago. Interestingly, his grandchildren are now doing a similar type of start-up locally, looking at niche products. (The word "niche" will come up a couple of times in what I'm going to be talking about.)

We originated in the sugar and timber industries and have grown from a Zululand sugar and forestry equipment supplier to a global supplier and manufacturer of mining and construction equipment as well. Our core product is articulated dump trucks (ADTs). We've only been in the market for about 25 years and one of our major claims to fame is that we make the largest ADT in the world. We were the first company to market that size and there are some interesting new developments as well [a 60-ton truck was launched a month after the conference]. That truck has about 70 percent local content, based on selling prices, so there is a lot of localisation – and that's despite the closing down of ADE [Atlantis Diesel Engines].

There have also been a lot of spinoffs. The other manufacturer of similar construction and mining equipment in South Africa is Dezzi (Desmond Equipment South Africa) in Port Shepstone, which is often referred to as the Bell "old boys club". Engineering Top Tech does a lot of customisation, originally just of Bell equipment, but now increasingly of others'. Then there have been huge spinoffs for our 440 local suppliers. One interesting story is Global Composites, which was the old Nissan Sani operation in Pietermaritzburg. It had closed, but started up again two years later when we needed a composite manufacturer for our cabs.

Bell is very much a niche global player. There are more than 50 000 units in the field and we export to about 80 countries globally, not just in Africa. We're the 41st-largest yellow-metal company in terms of dollar sales, but that's only 0.3 percent of the global market. Even in Africa, we only have 2.9 percent of the continent's market for mining and construction equipment. But we are a vehicle manufacturer: we're a production line, not a job shop. The main products are trucks and loaders and excavators that are linked to trucks and used in mining. We don't do a lot of underground mining equipment. We do have a low profile truck, but not the ultra-low profile or the mega-rigid trucks.

The group is a public company. Turnover for the last calendar year was just under R6 billion. It took us about four years to recover from the 2008 crash, for our turnover to get slightly above what it was in 2008. There's a lot of company information on our website (www.bell.co.za).

We have about a hundred products in four different categories. One category is products we design "from paper". But obviously we need volumes, which are critical in our business, even for niche products – not only for manufacture but also more importantly to amortise the development cost. That's why we've moved away from design except in areas of strong advantage, such as ADTs and sugar and forestry equipment. For example, we originally designed our own front-end loader, but we now build them under licence from another company.

> That is also the kind of value add that we should be looking for in South Africa, because it's labour intensive and mainly using local designs but harnessing global technology.

Then we have products that we make "from steel", where we literally bring in the flat plate steel, shot blast it, and do all the cutting and grinding, etc. The third category is assembly, where we have automotive industry terms like CKD ("completely knocked down", or fully disassembled) and CBU ("completely built up") imports, which includes units like bulldozers that are just not feasible to manufacture in South Africa.

We're very working-capital intensive, and so the growth of the company has been limited by the financial resources. Originally, the company was funded from the old traditional "friends, fools and family", and then increasingly the banks and private equity, a bit more from individuals, and then the company listed. In 1998, John Deere made a substantial investment, which gave us working capital – and that was after the "Asian contagion", the withdrawal of GEIS [the General Export Incentive Scheme] and the downturn in the South African civil contracting industry. The IDC [Industrial Development Corporation] was very supportive after the 2008 global downturn. One wonders what's going to happen next: when the next downturn is going to come, and what the situation will be then.

We're also very labour-intensive. If you go around our factory, there are no robots – just a little bit of automation in some areas. Our direct employment is 3 500 and probably 35 000 people are indirectly employed.

I thought it was interesting when President Zuma told the BRICS Business Council that South Africa is focusing on six industries. The first he mentioned was infrastructure, and we tick that box. Second was agriculture, and we tick that box, because we're still involved in sugar and forestry. Mining and beneficiation, which is obviously the topic today: we tick that box. Manufacturing: we tick that box. The other two – the green economy and tourism – we probably only have partial ticks: our equipment is very green and we participate in industrial tourism.

Steel is about 8 percent of our input cost, so we have very high value addition – unlike, for example, the steel pipe manufacturing industries. Including components, probably about 25 percent of our cost is steel, but only 10 percent of that is local because, for example, the engines are imported. We take steel at R12 000 per ton – I don't know if there's anyone here from Arcelor Mittal or Macsteel, but maybe we can also talk about that price sometime – and we turn it into R120 000 per ton. There's a tremendous amount of value add. That is also the kind of value add that we should be looking for in South Africa, because it's labour intensive and mainly using local designs but harnessing global technology.

We're globally competitive. Our products are branded or co-branded with companies such as Hitachi, Liebherr, Deere, Bomag and others, and we compete with the likes of Caterpillar, Volvo and Komatsu. Our markets are mainly in the US and Europe, because that's traditionally where the ADT market is, because it's a developed product. The BRICS markets are relatively small.

> We've only been in the market for about 25 years and one of our major claims to fame is that we make the largest ADT in the world. We were the first company to market that size and there are some interesting new developments as well.

GOOD NEWS BAD NEWS

We work very closely with the IDC and the department of trade and industry (DTI) on localising products such as tyres, wheels and rims, etc. – but that's the good news. The bad news, and not only for our industry, is that there's a lot of commodity competition and that affects our global competitiveness. Earlier, we mentioned the price of steel and, unfortunately, to remain competitive globally, we do have to look at global sourcing. We also do global sourcing for higher technology items, where reliability and performance are important. While we're very appreciative of the support that we got from the DTI under the Motor Industry Development Programme (MIDP), that support hasn't quite translated into similar levels from the Automotive Production and Development Programme (APDP). We're also very appreciative of the support from the IDC during the 2008 downturn when we went through our difficult times.

However, there are a lot of things that are not working well. Henk Duys touched on some of them, but let me get down to a few specifics.

There's a major global exhibition in September called Bauma Africa. We'll probably spend about R10 million on that. Our claim-back from the DTI, under EMIA, will be about R40 000 and that's probably not worth the administrative cost of applying for it. There's also product development. We do a lot – but when we approach SPII [the Support Programme for Industrial Innovation], we are told, "That's a model change". My response is that it's like going from a model-T Ford to a Maserati in four "model changes". I think we need to look at some of these government programmes to make them more relevant, especially in the areas where we have that competitive advantage, where we are ticking four of the six boxes that the president identified as the focus, and where we are delivering on industrial policy objectives.

We have a serious commitment to the National Development Plan. Our jobs are located in a relatively rural area that has high unemployment, high poverty and high inequality. If we look at the other BRIC countries, there's a lot that we can be learning. Brazil has attracted all of the major players because they have a very clear localisation policy. For example, if [UK manufacturer] JCB wanted access to the local municipalities, they had to set up a production facility in Brazil. Russia has come out with a utilisation fee for anything that is not made locally. India has simplified their state purchases.

The Proudly South African "buy local" campaign still needs teeth and focus and a very clear value proposition. In terms of local preference – yes, there is designation, but none of our products are designated yet. For non-designated products, Clause 9(3) of the Preferential Procurement Policy Regulations allows tendering authorities to require a local content but I don't think is being used at all. Another challenge is: how do we get that local procurement preference taken to the second tier? When a construction company wins a tender, there's no requirement for them to use our equipment rather than equipment that is imported by Caterpillar, Volvo or Komatsu.

> We're also very labour-intensive. If you go around our factory, there are no robots – just a little bit of automation in some areas.

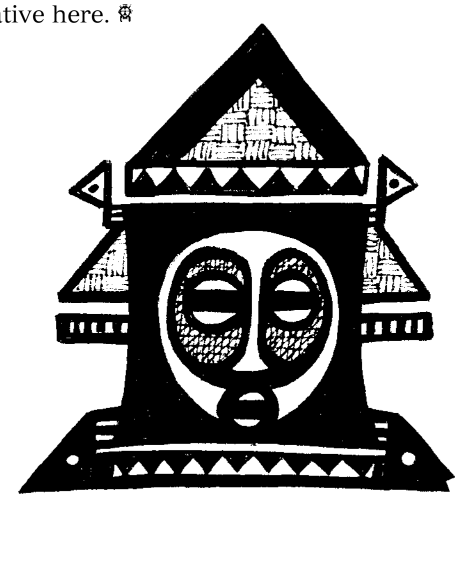
Skills are a big issue. I think it's something that starts right back at early childhood development. There's one figure that keeps me awake at night, and it's the fact that 1.2 million kids start school in this country and only 51 000 pass with maths scores above 50 percent, 12 to 14 years later.

We also need to ask some provocative questions. Why are Caterpillar, Volvo and Komatsu not here? And why is Bell staying? Despite being far from our major markets in the US and Europe, the costs of doing business are high. There are also the labour issues and the support issues that have been referred to.

Another question is about the platinum group metals. OPEC very clearly controls a major commodity with only 30 percent of the supply under their influence. With platinum, we're sitting with a lot more than that.

It would also be helpful to unpack some of the steel imports, not only the direct steel imports, but the indirect steel imports. While a lot of emphasis is being put on the new state steel mill, we must recognise that, in such a capital-intensive industry, the last facility to come online is always the most expensive – it will take a long time for that to become viable.

We're optimistic about the country. We're optimistic about mining. We're optimistic about the role that we can play in mineral beneficiation, both in terms of adding value to steel –South Africans producing steel using South African hands, minds and ideas – and also in terms of the side-stream inputs into the mining industry. This is why we're very supportive of this initiative here.



What manufacturers need

By Stewart Jennings

The author is the chief executive officer of PG Group and past chairperson of the Manufacturing Circle

I just want to pick up some points that will hopefully stimulate some questions and debate. Firstly, my real sadness is to see manufacturing as a percentage of GDP dropping from 22 percent to now 12 percent in this country. Yes, manufacturing has been growing by 2 percent per annum – but with our economy growing at around about 2.5 percent, that means that we are going backwards.

It also concerns me that the financial sector believes that we can do without the manufacturing sector. No successful economy in the world can exist without manufacturing: it's the basis of everything. That's why we started the Manufacturing Circle about five years ago. To think where we were in the 1960s, when manufacturing and mining were at the top of the tree. We are now a beleaguered Cinderella, the forgotten citizens of the country. Services have grown and that's good, but I think they've probably reached their zenith and we're not going to see too much more growth there. So what should we be looking at?

First of all, let's look at unemployment. Everybody in this country – whether it's the president, CEOs, the DTI or the Treasury – is talking about sorting out unemployment, but none of us are really doing anything strategic about it. Why is that? Because of a number of reasons, not least of which is the margin squeeze. What is the biggest problem everybody in this room is facing today? I can assure you: it's deflation and margin squeeze, which have been brought about by our currency movements and by China exporting unemployment. These are the two elephants in the room, and unfortunately South Africa is just too small to fight them.

So what are we going to do about it? Well, there are a few things. Alignment is primary. One of the speakers mentioned that there's a lot of self-interest in South Africa and that's very true. Every sector looks after itself. The financial sector wants a strong rand. The manufacturing and mining sectors want a competitive currency. Everybody wants to import, to have a cheaper product, and everybody forgets employment. That's got to be the rallying call. I think, quite honestly, we need some political leadership to stand up, as Brazil is doing now, and say, "We're going to create jobs.

We're going to protect and nurture our industry, and we're going to get our people back to work".

I saw a television news broadcast a few weeks ago about the Soweto demonstrations for service delivery. I was horrified to see what was happening, that our people are suffering as they are, and that the conditions in that township were absolutely horrifying. Those of us who are not supporting South African industry should have a look at that film clip and ask ourselves questions. Why we aren't nurturing and looking after our industry?

Let's look at some other issues. Adam Elhiraika mentioned that the average GDP growth in Africa is 5 percent. Now if we exclude South Africa from that, it becomes 8 percent. Here we are, the powerhouse of Africa. We should be number one in Africa and we're struggling to reach a GDP growth of 2 percent. All of us are to blame because there's no alignment in the economy.

There are also competitiveness factors. It's very difficult to be a large manufacturer in South Africa because of the economies of scale. We just get pounded with more and more costs. Electricity goes up. The big users of gas are looking at a 22 percent increase, just because NERSA [the National Energy Regulator of South Africa] has ruled on the tariff. When manufacturing is lumbered by all these cost pushers and you have a currency that, until September last year [2012], was not competitive, it's very difficult to reinvest and to create employment. These are the major issues South Africa has to face. We have to make some tough decisions and those have to be aligned, and all of us have to support a job growth strategy.

GETTING IT RIGHT

Let's look at some of the successes that we have had and not get too despondent. The motor industry has been an incredible success. It's an example of what's worked. It's an example of government and private sector and international investors getting together and succeeding. We produce less than 1 percent of the world's automobiles, and yet look at our export base in the motor industry. We component suppliers probably get the short end of the stick, but at the same time, we are very grateful to the OEMs [original equipment manufacturers] that brought investment to this country. And more importantly, they brought skills. If you go around today to Toyota, Mercedes, BMW or any of the OEMs, and compare them to how they were 10 or12 years ago, it's light years away. It is just incredible to see what they've done.

How have they done that? Firstly, it was investment, and secondly, they've brought people from Japan, Germany and France to transfer skills. Reserve Bank Governor Gill Marcus recently said something that we in the manufacturing sector that have long been lobbying for: let's open our doors to immigration. It's very difficult at the moment. We've been trying to bring in skilled people, but work permits are very difficult to obtain. I can assure you that, if we bring in the skilled unemployed from Europe, the US and other countries, we will transfer the skills, enhance black development and nurture small business.

> Everybody wants to import, to have a cheaper product, and everybody forgets employment. That's got to be the rallying call. I think, quite honestly, we need some political leadership to stand up, as Brazil is doing now, and say, "We're going to create jobs. We're going to protect and nurture our industry, and we're going to get our people back to work"

Another issue that everybody talks about is the importance of small business. Yes, we agree – but small business cannot exist without large business. Small business feeds on large business, and unless we nurture our big companies and encourage them to look at enterprise development, we're not going to enhance small business. That is very important.

We also seem to be very keen on encouraging new investment into this country. That gets a big tick, but at the same time, our challenge is economies of scale. So what we should do is get international companies to come and invest in existing South African companies and grow them, not to come in to compete. I'm not a great advocate of bringing in another steel company. All you're going to do is make ArcellorMittal and the new company more uncompetitive. Let's rather look at how we can become a better and more efficient steel producer based on volume demand.

The BHP Billiton Manganese Story

By Andre van der Bergh

The author is head of function: non-process infrastructure, Manganese South Africa, BHP Billiton

I am balanced between two very difficult tasks. The first one is to stay within ten minutes and the second one is that Prof Turok invited me after BHP Billiton announced the R1 billion investment in a new furnace. He asked me to speak about how such an investment is possible in a world where energy prices go up and everyone says you can't do this.

First, some background. BHP Billiton is a proud company with 100 000 employees and contractors across the globe, with six mega-business units and 100 business units in 25 countries across the globe. Our key income is from petroleum, copper and other commodities. I am in the aluminium, manganese and nickel business unit. Obviously we are very focused on upstream business as an organisation and hence the question: why beneficiation, why some downstream activities?

To put it in perspective, we ask ourselves about the framework in which we operate as an organisation. And we have a document, our Charter, that spells out our purpose and values in six or seven principles. The key principle I would like to touch on here is "sustainable development". While recognising that mining itself is not sustainable, how can mining contribute to sustainable development in the economies in which we operate? That is the challenge.

Our manganese business in South Africa is in two groupings. Close to a wonderful little town called Hotazel in the Northern Cape, there are open cast and underground mines that hold 80 percent of the world's manganese resources. The downside is that you really are in the middle of nowhere, with no infrastructure. South of Johannesburg, at Meyerton, is Metalloys, an alloy smelter to manufacture the manganese product. For those who don't know, manganese is essential to steel production. Metalloys is probably one of the largest beneficiating plants for manganese globally. Our workforce is approximately 534 employees and over 200 contractors, and we have been operating there since about 1951. And we have talked about how to go about integrating these businesses in order to extract the value.

COMPETITION CHALLENGE

Now, getting to the meat of the matter. The key challenge for South Africa is how to grow the market share. We as South Africa are sitting on 80 percent of the world's top-notch manganese ore, but we own only 21 percent of the world's market. Why? And what do we need to do in order to compete with the rest of the world and increase our global market share? This is not a BHP Billiton company debate: this is South Africa Inc versus the rest of the world.

For example, in our business, we compete with Australian mines. If you look at mining, we are mining manganese much more efficiently and effectively per unit. However, the product needs to go to market. Rail is one of the key challenges for South Africa. In Australia, most ore deposits are quite close to the ports; they run 20- to 40-kilometre conveyor belts. But in South Africa, the ore is in the middle of the Kalahari, 1 000 kilometres away from the coast, with no effective infrastructure and a lack of capacity.

We are working hard with other stakeholders in the manganese industry to see how to address all of those key issues facing our sector. We need to become more effective. We need more effective rail and export capacity, and we need larger vessel sizes, deeper ports and more effective shipping. We are working on some of those initiatives.

We have another complexity in the alloy business. Sometimes, if a chrome smelter or a nickel smelter is going through a hard time, they may see an opportunity in the manganese market and shift their production over to manganese smelting, to alloy manufacturing. And that can upset the global demand and supply situation.

> While recognising that mining itself is not sustainable, how can mining contribute to sustainable development in the economies in which we operate? That is the challenge.

Why beneficiate at Metalloys? We have been there since the late 1950s and made significant investment in the communities, so we do have an appropriate skill base to source from. And given the fact that we provide cost-effective product to that smelter, our input costs are much lower than smelters in the rest of the world. The energy cost is a key issue, and our thinking was that we need a different paradigm and mindset. Today, I think about 25 percent of the electricity utilised for that smelter is actually co-generated by utilising the off gases – the CO gas – produced by the furnaces.

We are very positive in terms of the regulatory environment. This is in line with the government's beneficiation policy, so I think there is great alignment and this synergy will actually work. For some other players in industry, the carbon tax and related regulatory issues are a concern, but we are quite positive we can resolve that as a country.

SUPPORT FOR BENEFICIATION

We talked earlier about how to make beneficiation sustainable in our mining sector. A lot of our input costs are regulated costs. Fortunately, there has been some good movement from the port regulator. Industry lobbied the case that the cost of handling at the port is very expensive, and we saw the port regulator stepping in and taking on Transnet and the TNPA [Transnet National Port Authority] about the cost indexes. We don't have an economic rail regulator and the majority of the players in this sector don't have long-term rail contracts. It is actually very difficult to make a twenty-year investment in a mine if your rail contract is for three months.

The other areas where we can support beneficiation are very important. We need to move away from the idea that companies only export their product. As in the motor industry we can find a way to provide an upside, in terms of better export, price, volumes. Because, ultimately, mining is a volume business. We can promote government beneficiation policies. Look at the rest of the world. I am thinking about investment initiatives in Tasmania, their rebates and incentives to drive and support beneficiation. And we need to make sure that all the other supporting infrastructure – such as access to water and rail – is in line with the investment period.

I have one or two examples from the group, but I will not go through them in detail because of time. For example, we own a smelter in Tasmania, just south of Australia. We found that business didn't make money. The cost of power was completely out of line and we could not compete with smelters in Malaysia. So the leadership of the mining sector, the manufacturing sector, and the Australian government sat around the table. There was trust, there were hard and frank debates, and the government recognised that the electricity was not cost competitive. They looked at the balance sheet in the entire supply chain and came back with much better pricing, which enabled us to get the plant open, which enabled downstream activities. If we look at the net value for the Australian economy, that was certainly a sweet spot.

In the mining sector, we don't have to re-invent the wheel. I grew up in a very wonderful town called Uitenhage, and I am a proud Volkswagen supporter because they helped me to study. And I've learned in Uitenhage that one of the reasons why the motor industry was so successful was once again the commitment to "put South Africa first". The commitment to see what we need to do as a country, to drive an environment to support investment, create the incentives. And today I go to Australia and I visit Tasmania and I see all of those Golfs driving around – and they are proudly made in my country.

So I do think that there are a lot of positive case studies in this country that we can learn from and replicate for the manufacturing and mining sector.

The Chamber of Mines

By Roger Baxter

The author is senior executive responsible for strategy and economics at the South African Chamber of Mines

I am going to focus on a couple of key issues. The first one is that, based around its mining sector, South Africa has by far the most industrialised economy in Africa. In fact, the South African manufacturing sector counts for about 5 percent of Africa's entire GDP. So we must not underestimate our fairly substantial manufacturing sector, even if it is just 15 percent of South Africa's economy. That's because South Africa's economy is simply in a different stage of its growth path compared to the other emerging African economies.

And we have significant linkages between the mining sector and other components of South Africa's economy. Many people have written on the contribution of the minerals and energy complex (MEC) to the development of South Africa's economy, but right now about 19 percent of our GDP is created ultimately by the mining sector, including its backward, forward and induced-spending multiplier effects. On the downstream side, 99 percent of our cement, 80 percent of our steel, 50 percent of our chemical feedstocks, 94 percent of our electricity and 30 percent of our liquid fuels are produced in South Africa using locally mined minerals. Take one example: SASOL mined R11 billion worth of coal last year, and they generated R165 billion worth of sales value. There is significant beneficiation already taking place where the commercial opportunities exist.

Mining is obviously a very critical sector and a substantial part South Africa's economy. However, the mining sector is facing a set of international and domestic headwinds. In international markets, the recession in the EU and slower growth in other key markets has reduced mineral demand and prices. In the domestic market, rapidly increasing costs, labour disruptions, infrastructure constraints and other factors have affected the mining sector. For example, more than half of the mines in the gold and platinum sectors were loss-making at the prices prevailing in 2012.

We all fully support the notion of encouraging greater beneficiation and value addition in South Africa. Certainly, we have a very firm mandate from our Chamber Council – which is made up of the chief executives of the mining companies, representing 90 percent of South Africa's mining industry – to encourage greater localisation of production in the upstream, and also to encourage greater downstream beneficiation, over and above what we are already achieving in South Africa. These are all meritorious ideas. The key issue is "how". That is why these discussions today are very important.

We do have a significant manufacturing sector. In the last three years up until 2012, the South African manufacturing sector's real manufacturing value added (MVA) growth was 2.9 percent per annum. This compares with Australia's 3 percent. Australia's manufacturing sector has faster growing productivity than ours – and we like to criticise Australia as a country that is too mineral-dependent. In China, MVA growth was 8.1 percent for the last three years; for the last decade, it was over 10 percent. South Africa's MVA growth over the last ten years was about 3.2 percent. I am giving these numbers to suggest that our manufacturing sector is going to continue to shrink unless we have a massive jack-up in competitiveness measured in real manufacturing value-added growth (i.e. real productivity growth). And so we need to be asking the question – and this is one of the critical propositions I am putting to you today: what are the specific issues that are going to help our manufacturing sector to be more competitive?

In the mining sector, we don't think that a weak exchange rate is going to bail us out of the challenges we are facing. Of course the exchange rate level is important, but we need a stable and predictable currency.

GREATER CO-OPERATION

There are some proposals on the table from government's side. Historically the government focused on leveraging the mining sector: "How can we use mining rights to challenge the sector to do certain things?" This was not the right focal point. Increasingly there is recognition that greater co-operation between the mining, manufacturing and government sectors is key to creating the environment for greater beneficiation.

If we look at the upstream supply chain, we do agree that there is a lot of work that we can do and are doing. We have a project with the department of trade and industry (DTI) and the department of mineral resources (DMR) looking at how we can encourage further localisation of products to supply mining. It's an interesting example of sector/government co-operation.

The second proposal coming through from the DTI, and the DMR in particular, is about encouraging mining companies to sell product in the domestic market at lower than market prices. The view is that mining subsidising the downstream industry will make our manufacturing sector more competitive. The work that I have been doing for 25 years shows that most of the countries that have been really successful in the manufacturing sector have done it on the basis of a whole set of other issues – not on developmental pricing of the minerals concerned. I could spend a fair amount of time telling you why the funding of the inventory pipeline and having suitable funding mechanisms in place – and this is where the IDC [Industrial Development Corporation] could play a very critical role – is much more important than accessing the mineral at a cheaper price than on the international market.

What do we propose as the Chamber? What are the issues that we think are important? If we look at some of the traditional measures – cost-competitive production, etc. – we find that companies want to invest in countries that have growing productivity levels. Having "smart tape" regulatory frameworks instead of "red tape" regimes is key for deriving manufacturing competitiveness. We don't want to *not* be regulated, but we want to be regulated with smart tape. I am not talking about mining here, but the issues that affect the competitiveness of the downstream manufacturing sector. Effective incentives systems, duty-free access to key international markets, effective domestic competition policies: those are some of the basic issues. I have then looked at the special Santacruz Electronics Export Processing Zone (SEEPZ), just north of Mumbai in India, the Pudong industrial development zone in China and a few others, to see what they have been doing. In the last decade, 80 percent of the investment in the manufacturing sector in China went into five coastal cities that just happened to be special economic zones. The key factors in these economic zones include:

- tailor-made facilities. Quite a lot of the facilities for fabricating products are actually made by government and handed over to the fabricators, or lent to them
- duty - and VAT-free zones. As an example: South Africa last year imported R1 billion worth of diamonds, and yet the diamond producers have to carry a 14 percent VAT cost on that and they have to wait three to four months [for a refund], depending on how generous SARS is. That is an incredible competitive *disadvantage*, if you want further cutting and polishing done in South Africa
- expedited customs procedures
- strong government/business interface
- key knowledge linkages (access to market demand information)
- access to the right distribution and knowledge networks
- cost effective logistics. If you want to reduce import parity pricing, you've got to make our transport networks a lot more efficient, both ports and rail
- flexible production processes. In other words, the ability to turn around your production processes to be flexible for the international market
- customised materials funding schemes
- the right incentive programmes.

We have some examples in South Africa where the government tried certain policies, like in the diamond sector, but they have not worked. The diamond cutting and polishing industry has gone from employing some 3 000 people in 2005 to perhaps about 500 people actually participating today. There are lessons we are learning about the right incentives for the promotion of manufacturing competitiveness.

Some people argue that we could use our platinum resources to limit supply and challenge global markets. Well, South Africa does have 80 percent the world's platinum reserves, but we only account for 41 percent of the global supply.

The Chamber of Mines' perspective is that we need a much better co-operative partnership between ourselves and government for encouraging greater product development and greater adoption of new technologies. I hope the IDC is one of those entities considering putting in a fuel cell. We are certainly doing it; we are thinking about it. We can demonstrate that we can adopt the technologies and show the rest of the world that they really work, which helps us to get the greater benefits of these technologies into the global marketplace, from mining right through to manufacturing.

TAKE CARE OF MINING

Let me conclude by saying we have to be very careful about nurturing our mining sector and getting it out of the intensive care unit. A set of global issues has affected the sector, but most of the issues are actually domestic: productivity, falling grades, logistical infrastructure constraints, etc. I am not going to give you a sob list, because we are not here to tell you what the challenges are. We are focused on trying to work much more closely with government, in a much better partnership, to get the right outcomes for mining.

We're looking at beneficiation, both upstream and downstream. We think it's very important in "Putting South Africa first", which is a slogan the Chamber has adopted. (It used to be "Serving the mining industry since 1889", but that was a bit dated.)

In each of the value chains – whether it's platinum, diamonds, gold, iron ore, etc. – there is a lot more talking that needs to happen. We have been talking past each other, and we really do need to focus on the critical things that affect competitiveness, specifically in the manufacturing sector. That is where we all have a role to play and we can only do it in a co-operative, collaborative, problem-solving partnership. Minerals matter for the growth, transformation and development of South Africa.

Chrome value chain:
Processing and beneficiation beyond mining

By **Karl-Rudolf Gassen**

The author is the managing director of LANXESS South Africa

LANXESS is a leading German specialty chemicals company operating in 31 countries, with sales of EUR9.1 billion in 2012. It was formed when Bayer spun off its chemical business in 2004 and we are now fully independent. We have 52 production sites, 14 active business units and over 17 000 employees. And we are proud of the sustainability approach of all our businesses.

Here in South Africa, we have three sites and a headquarters in Johannesburg. The chrome ore is mined in Rustenburg. We ship this material to Newcastle, where we do the first chemical step. The second chemical step is done in Merebank, near Durban. That involves 1 100 direct employees and 500 service providers. We are creating about 10 times that in indirect jobs.

Our value chain begins with mining chrome ore and we beneficiate in four different qualities. Metallurgical products are more or less sold as commodities and others go to speciality markets, where our core competence as a chemical company kicks in and we are number one or two in the world.

In Newcastle, we convert chrome ore into sodium dichromate (SDC), an intermediate product that we sell around the world, and we also convert SDC to chromic acid. This is used in the plating industry – for example, all that shiny chrome you find in new cars. We are number one in the world for that: the best quality and the highest prices. SDC is also sold to the markets for chrome pigments, one of which – and one of the biggest plants of its kind in the world – is a LANXESS facility in Germany.

We also ship SDC to Merebank, where we make chrome tanning salts. This is a bread-and-butter product for tanning leather, and here we are also number one in the market. This is the third step of beneficiation – and it is all done here in South Africa. We are very, very proud of this. And we are the only company worldwide that has integrated all the steps to the final products.

DEVELOPING SUSTAINABLE BUSINESS

Development is most important, and it comes with investment. Without investment, the business will die. Innovation is one kind of investment and we are proud that we have created a new generation of high-tech speciality chromium products, which we beneficiate in Rustenburg. We also found new applications for UG2-quality chrome ore – ore that is already mined and sitting on the surface looking to be used. We can link that into the value chain.

There is also capital investment. Since I came to South Africa three years ago, we've managed to secure further investments for South Africa. In Newcastle, we have invested R400 million in a state-of-the-art carbon dioxide concentration plant, which captures CO_2 from the atmosphere to use as raw material in our chemical processes. We found new technology for our sulphur burner in Merebank.

We are investing also in people. At our mine, we took 350 people from a labour broker as permanent employees. Maybe that sounds a little bit strange, but it makes a lot of business sense to us. The productivity of people who are brought into our "family" – being trained and advised on how to run the processes – is much higher than the productivity of a labour broker employee. And of course we are running several corporate responsibility projects, as we do in all the countries where we are active.

SUCCESS FACTORS

The key success factors in our industry are much the same as the other speakers have mentioned. The challenges are energy and transport. We have to do quite a lot of bulk transport and the only safe and economical way is by rail. We also need world-class port services. We have to have skilled personnel. We need a stable industrial environment for attracting investment. For us, access to global export markets is very important. These factors can be influenced by us, but to different degrees. I think that it is paramount that industry, service providers and authorities all work together constructively to overcome the issues we are facing.

This sector of industry cannot grow if we can't transport our produced materials to the harbours and from the harbours to the markets, or if we can't import the material we need for our production.

I am going to share with you our company's point of view on these factors:

- access to export markets. The situation is good – *so far*. There are some discussions occurring which indicate we must be very careful that it stays like this
- skilled personnel. I might differ a little bit from my colleagues here, but we think this is a company responsibility. We have training programmes for all of our crucial skills, and we are able to attract talent and form professionals. So for us it is not such a big problem right now
- energy. We do apply all of our competencies and we are running efficiency programmes throughout our plants. So, from that point of view, we have been able to guarantee a competitive price for our products. But we are not alone in the world and the velocity of the price increases for energy in South Africa is a lot higher than in other parts of the world. The competitiveness of the US economy is actually based on readily available cheap energy – it's not due to productivity development in their industry. Since we compete on a worldwide basis, that is clearly something to watch out for.
- transport. This is the concern we have now, primarily regarding rail services. We are engaging with Transnet, and I have to acknowledge their effort and their willingness to sit down with us to overcome the obstacles and get the solutions, but eventually there will need to be a huge investment on their side. This sector of industry cannot grow if we can't transport our produced materials to the harbours and from the harbours to the markets, or if we can't import the material we need for our production.

In a nutshell, I do not see anything that can hinder us from further growth. I see only two major things that we require. First, an environment that attracts investment. Second, to apply technology to make our activity here very competitive.

The role of policy
In support of industrial development
By Garth Strachan

The author is acting deputy director-general of industrial development at the department of trade and industry

I'll make a few points about industrial policy and then focus in on the topic of the interface.

My first point is that the National Industrial Policy Framework (NIPF) was only adopted in 2007 and five iterations of the Industrial Policy Action Plan (IPAP) have followed. This is actually very recent. We are in the middle of the fifth year and I think this the only government department that puts an action plan into the public space with an economic rationale for each and every one of the interventions that are set out; key action plans for those interventions, with the lead and supporting department and government agency for each; as well as the timeframe for completion. The government saying this is what we're going to do, by when, and on the following economic foundation, is quite an important instrument for management and for oversight. I think significant progress has been made across a range of sectors, bearing in mind that there are 18 sector-specific sets of plans – some stronger, others not so strong – and five transversal interventions.

The second point I want to make is that I don't think we should see industrial policy as a single intervention, whether it's an incentive or industrial financing. Industrial policy has to be a set of interlocking, mutually reinforcing instruments. The IPAP tries to marry industrial policy in that way, and so it ranges from competition policy to incentives to tariffs to trade measures, industrial financing, research and development, and so forth.

Thirdly, our understanding is that, where you've had successful economic growth sustained above 7 percent year-on-year for longer than 20 years, there isn't an example anywhere in the world where that growth has not been led by manufacturing. The employment and economic multipliers are strongest in manufacturing. But central to those successful examples is a number of other factors including, of course, and relevant to this workshop, the existence of a very close working relationship between government and business.

PROCUREMENT

Turning to the interface between manufacturing and mining, let me say a few things about procurement, which is one of the principle instruments deployed by government to support the manufacturing sector, and which could be an important tool for support of manufacturing by the mining sector.

First of all, this is what we can't do. Because it would be in breach of the World Trade Organisation (WTO) agreement, the government can't pass legislation or regulations that make it mandatory for the private sector, including the mining sector, to procure locally. That can't be done without inviting a complaint at the WTO.

So we have had to work in the public sector space. We amended the regulations of the Preferential Public Procurement Finance Act, which allows the minister of trade and industry to designate for local procurement up to a certain threshold. And this is a very recent policy instrument – in fact deployed only over the last one-and-a-half years. Thus far the minister has designated 12 sectors, with a focus on big industrial sectors. We believe that what we've done is having an immediate and significant impact – and this is what we are hearing from manufacturing companies and industry bodies, especially in capital equipment, metals and related sectors. There is a sea change in the discourse and practices related to procurement, including procurement by the big public sector procurement agencies – Eskom and Transnet, in particular. Of course, we will require a much better understanding of the impact of this instrument on the manufacturing sector across a range of economic indicators. Is there a real and tangible impact, with co-commitments by the private sector to improve competitiveness and capabilities?

The second instrument that's been deployed is the Competitive Supplier Development Programme (CSDP), which is quite a lot older. We think there's very significant progress with respect to supplier development in the Transnet and Eskom build programmes. Possibly the most important lesson that comes out of this programme is that the procuring entity has to build sufficient capacity to manage a CSDP in very close co-ordination with suppliers in each one of those sectors.

Government has deployed local content requirements in contracts for renewable energy independent power producers (REIPPs), with arguably mixed results. Nevertheless, the deployment of this policy has facilitated R6 billion investments into the green industries sector, across a range of wind and solar power components. But business being what it is, and other government departments being what they are, "local content" is sometimes seen as building the car park and the concrete foundations. In fact, local content and supplier development has to mean the deployment of policy instruments and support measures to ensure that domestic manufacturers produce components up the value chain for supply into the domestic market and for global value chains.

The National Industrial Participation Programme (NIPP) requires offset investment in industry where the government purchases beyond US$10 million. There have been both significant achievements and some slippage in the NIPP and the minister is about to publish new regulations, which close loopholes and require stronger, watertight offset investments in "direct NIPP" – or investment into the sector in which the procurement takes place. For example, if the state procures wide-bodied aircraft, then we'd like to see the offset go directly into the aerospace industry to build local capabilities and facilitate entry of companies into global supply chains of original equipment manufacturers.

> The other aspect of beneficiation comes from the imperative to ensure that South Africa's mineral endowment becomes a competitive advantage to the country.…This requires that developmental, significantly discounted prices for strategic minerals be passed on as competitive prices through the value chain to the manufacturing sector.

A range of incentives, particularly the R2 billion Manufacturing Competitiveness Enhancement Programme (MCEP) support companies that are raising their competitiveness.

In short, we think there is already some traction at the same time as there's a long way to go in the use of procurement and supplier development to build local manufacturing capacity. For example, in the clothing, textiles, leather and footwear sector, designation is one thing. Compliance – ensuring that all the municipalities and the provinces actually design their tenders for local procurement – is another.

CO-COMMITMENT, NOT RENT-SEEKING

Clearly, one of the central platforms of government policy has to be that it cannot send rent-seeking signals to the private sector and the manufacturing sector in particular. This is why policy instruments such as designation or matching grant financing such as the Manufacturing Competitiveness

Enhancement Fund require strong co-commitments to scale up competitiveness.

Perhaps we need to also debate the issue of the Local Procurement Accord, which has not been very successful. Essentially, the Accord was an agreement between the social partners to utilise local procurement to advance industrialisation and support the manufacturing sector. The government would do x, y and z in relation to localisation and the private sector would do a, b and c. Government has met many of its commitments but perhaps the private sector has not been able to match the commitments which were made – although there are exceptions. There are very good examples in the clothing sector, where retailers in clusters are now beginning to support local manufacture – with government support – for commercial reasons, including those very specific to that sector: quick response, fast turnaround times, niche fashions and so on.

Beneficiation has to be central to the issue of the interface between mining and manufacturing. I believe the government views beneficiation in two broad ways. First, as adding value to primary commodities for domestic and export markets. In this space, the DTI is working closely with the Industrial Development Corporation (IDC) on a significant study into five value chains to identify opportunities for value addition. There will be close engagement with the private sector about these opportunities and the policy interventions that are important to drive the process forward.

The other aspect of beneficiation comes from the imperative to ensure that South Africa's mineral endowment becomes a competitive advantage to the country: to deepen industrialisation, facilitate foreign direct investment, maintain, restore and advance existing capabilities, and so on. This requires that developmental, significantly discounted prices for strategic minerals be passed on as competitive prices through the value chain to the manufacturing sector. This is perhaps the last and most important competitive advantage that this economy may enjoy. The Minerals and Petroleum Resources Development Act (MPRDA) amendment bill is before parliament. Time does not allow me to deal with the proposals of government in the Act, apart from the fact that it is at present the subject of a public engagement process.

In concluding these brief remarks, I would like to pose some additional questions as together we seek to strengthen South Africa's industrial policy. We believe that the IPAP has been successful, notwithstanding certain weaknesses, because it is the subject of rigorous research. It has been, and will continue to be, the subject of robust stakeholder engagement, especially with labour and business. Where it has been adequately resourced, the impact and gains are tangible. Contrary to some perceptions on the matter, when an intervention is seen not to work, we are happy to take proposals and interventions off the table, and have indeed done so. Much more needs to be done to deepen and broaden interventions, based on in-depth research, understanding company structure and strategies, a stronger export promotion strategy, and so on. And most importantly: can we hear from you where industrial policy is not successful and what you think needs to be done to improve it?

> We believe that what we've done is having an immediate and significant impact – and this is what we are hearing from manufacturing companies and industry bodies, especially in capital equipment, metals and related sectors. There is a sea change in the discourse and practices related to procurement.

Lastly, in circumstances where there's either "stakeholder fatigue" or people have lost faith in the institutions of social dialogue: how do we ensure a better dialogue between the DTI, government and the private sector? Most importantly – over and above the very good work that's been done by the Manufacturing Circle – how do the industrial and manufacturing sectors get into the public debate? We hear sections of the commercial media saying, "We want a free market approach, no government support (read as "interference"), no tariff protection, no incentives. Market forces will self-correct the problem. There are no market failures", and so on. But generally – with commendable exceptions – the manufacturing sector says nothing in reply.

Until we achieve policy coherence, with a strong alignment between the government and the private sector to support the manufacturing sector and transform the economy in the full sense of the word – in terms Minister Davies describes as "government steering, but not rowing" – we have a very significant problem to overcome.

Strategic projects and implementation

By **Kugan Thaver**

The author is head of the Strategic High Impact Projects Strategic Business Unit at the Industrial Development Corporation (IDC). He is also responsible to the Presidential Infrastructure Co-ordinating Commission (PICC) for two Strategic Integrated Projects (SIPs): the Saldanha–Northern Cape development corridor (SIP 5) and the green economy (SIP 8), as well as the PICC Localisation Unit at the IDC

I am going to discuss the IDC first, and then key areas from an implementation perspective. As a country, we have fantastic policies. These have made the IDC more focused as a development finance institution (DFI) and an implementing agency. In 2011, we looked at the National Development Plan (NDP) – which wasn't out fully that year – the New Growth Path (NGP) and the Industrial Policy Action Plan (IPAP) and we restructured the IDC to focus on those areas. Our key investment units, or strategic business units (SBUs), that are directly linked to the mining and manufacturing sectors are: wood and paper; mining; agro; green; metals; chemicals; textiles; and the strategic high impact projects (SHIP) unit, where I sit, which looks after infrastructure and logistics. We have tried to look at the full value chain, so that if you mine and you value-add and you need the logistics and support to access the market, the IDC should be able to provide all of that in one package. This is how we have structured ourselves.

One of our roles is to lead in or develop new sectors within the mining and manufacturing sectors and to support the expansion of existing companies. Bear in mind that we do have a very robust financial services market in South Africa and they can fund much of this. If our financial institutions get a contract from a blue-chip mining house or one of the big state-owned enterprises (SOEs), there is no need for IDC finance and we gladly allow them to take that business. We come in where there is more risk, and I will come to the requirements of the IDC later.

But with all these implementation policies, you need a market. In terms of the mining and manufacturing sectors, we can split it into two areas: mining equipment and supplies, and the value-add of the commodities themselves. We have quite an established industry that supplies our mines. But where is our next market? We need to look to the rest of Africa, where mining and manufacturing are growing, especially mining. We are ideally positioned to supply mining equipment to that market on the back of our existing industry.

In terms of value addition: what can we do with platinum and titanium, etc.? We may need to start at the market, look at who is using the end value-added product, and work back from there to see whether we can supply that commodity into the global supply chain in competition with the Americans, the Europeans, the Asians, etc. This means that we need different types of marketing strategies to actually develop a manufacturing base to supply into the global supply chain.

THE PICC

The Presidential Infrastructure Co-ordinating Commission (PICC) was formed through the NGP. We have three tiers of government and the SOEs all placing orders for procurement. Everyone is individually ordering the same thing. So how do we consolidate those orders and, by doing so, have an influence on skills development, localisation and local content? The role of the PICC is to co-ordinate those activities, and it has broken them down into 18 strategic infrastructure projects (SIPs). Part of the job of the Localisation Unit is to look across the board at all the SIPs. These activities are monitored by a council of minister and premiers in the PICC.

There are three SIPs that involve the mining sector directly. SIP 1 is the Waterberg coal line, SIP 3 is the manganese line from Hotazel to Coega, and SIP 5 is the Northern Cape to Saldanha iron ore line. We look at all these SIPs, and at the purchasing power of the mines, the private sector and Transnet and Eskom. What are they buying? What are the commodities? Are they localising? We identify and we report.

The IDC also works with Eskom and Transnet specifically to assist them with their supplier development. This dovetails with the department of public enterprises' Competitive Supplier Development Programme (CSDP) for institutions related to the DPE. PICC goes beyond this, to all the other institutions that fall outside of the CSDP, such as TCTA [Trans-Caledon Tunnel Authority] and Sanral [South African National Roads Agency Limited].

There is a bit of overlap, and where a CSDP is working we should not duplicate that. We then just report on these and other activities to the council of ministers. The whole idea is to make sure that we, as government, talk as one voice. We know that a lot of the issues in manufacturing are around municipalities and power supply. If there is a viable project, how can we work together to implement it? That, I think, is the role of the PICC.

It is taking off, but it was a bit slow because it requires a different mindset. A previous speaker mentioned that we operate in silos and that is the truth. We all operate like that: we're in our little town or province and we don't care what happens next door. This process is slowly bringing people together. The IDC engages at all levels. There is a lot of accountability in this and, where there is bottleneck, we intervene at the highest level to make sure that that municipal mayor or that MEC is implementing. We have to do that: otherwise these projects just get stalled.

> Everyone is individually ordering the same thing. So how do we consolidate those orders and, by doing so, have an influence on skills development, localisation and local content?

IDC FINANCING

We are dealing with multinational and local companies. A multinational will normally come with its own financing. If it is a local company, they have the infrastructure, and they need working capital, etc. Manufacturers normally require three things: concessionary financing, which the IDC has been structured to provide; incentives, which the department of trade and industry (DTI) provide; and the purchase order.

The order is tricky with multinationals: are they sustainable or just once-off? Local companies are a bit different. They are here, they want the order, and they will expand. With the multinationals, we have to figure out if they are just after this order for, say, a five-year period – or are we fitting into their global supply chain? Because that is what we should do. We should make sure that we become a permanent fixture in their global supply chain; that way they cannot reverse what they have done. We saw it with the arms deal. We negotiated a lot of offsets and I am sure there are a few good examples, but we do not see much benefit. Hopefully we won't make the same mistake again. We are spending a lot of money and we need to make sure we get value for our buck. It is as simple as that.

We also need to look at how we engage with African countries, because our market is with them. We have to be very clear about that. We have to start going out there, talking to them and seeing what can we share, because the Indians, the Chinese, the Americans and the Europeans are coming in and they are going to divide and conquer. That is what they are going to do. So we have to talk with our fellow African countries – sub-Saharan first, I assume – and see how we can work together and share the manufacturing output. South Africa obviously has a very big competitive advantage in infrastructure, in manufacturing, but we have to share that. This is part of the implementation process we have to undertake.

The IDC's vision statement speaks of "commercially sustainable industrial development" and sustainability is a big issue in all of this. People come around asking why we are not giving them finance, but they have to show that their proposal is sustainable. Success breeds success, and we can show that this plan is actually working in the designated sectors.

SOCIAL INCLUSION

I would like to end with the role of skills and social inclusion in what we are trying to do. When we make these facilities, we have to make sure that we include communities and the municipalities. It is a tough thing. If you are an entrepreneur, you want to come in, make a profit and go. Unfortunately, that does not work anymore.

> Manufacturers normally require three things: concessionary financing, which the IDC has been structured to provide; incentives, which the department of trade and industry (DTI) provide; and the purchase order.

The special economic zones (SEZs) are fantastic because now they are bringing manufacturing into the mining areas. We do not need manufacturing to be only in Johannesburg, Cape Town or Durban. If it is the manganese sector or the iron ore sector, all the equipment suppliers should be in Kathu or in Kimberley. We should start pushing the mining suppliers to that area. We need to get rural development establishment as well as part of this process.

> When we make these facilities, we have to make sure that we include communities and the municipalities. It is a tough thing. If you are an entrepreneur, you want to come in, make a profit and go. Unfortunately, that does not work anymore.

There is quite a strange attitude regarding skills. The private sector tells the government, "we need skills" and "we don't have the skills". Yes, our education system is going through some issues – but the private sector and state need to work together to train our people. We cannot create skills in the hope that "someone" is going to "set up a plant", because we might create the wrong skills, skills that no one is going to come and use. So there has to be participation when we set up these facilities. And that is to up to the manufacturing sector.

The IDC looks at skills creation, at the social impact, at all those things to make sure that this becomes a sustainable business and is inclusive of communities. We cannot ignore that. As a DFI, we try to help you with that. You are private sector, you need to make money – and that is good, because you pay tax, which helps us all. But we need to bridge the gap, to bring in the municipalities. That is our role. If we are not doing it, then I think we should start to.

My last comment is about whether we push for labour-intensive or capital-intensive industry. I am bringing it up because there are two schools of thought. From what I see, we need to be labour-intensive. We have youth that are coming out of school and we need to get them employed. We have millions of unemployed people; we need to get them into some employment.

It sounds fantastic to talk about becoming high tech and capital intensive. We can say we are "first world". But this does not feed our people. If going into those high technology areas will result in further labour-intensive industries being developed, then we should focus on it – but otherwise, in this stage of our country right now, we need to be labour intensive. And there's no better way for that than manufacturing or involvement in high labour intensity service provision.

Enabling the future:
The importance of clustering in South Africa

By **Sybil Rhomberg**

The author is the managing director of the South African Capital Equipment Export Council

This is all about developing business, and we sometimes forget that it doesn't often happen naturally. There are lots of entrepreneurs, but not enough, and so we have to make entrepreneurs – and that's where I come in. I'm very involved with making those people who dabble in business into first line entrepreneurs.

Before I start, I'd like to mention three recommendations from the UN Economic Commission for Africa document that encapsulate what I'm going to speak about.

One: "First work with the private firm" – and, I'm going to add, down to those companies with less than R1 million. We keep talking about big companies and yet we all know that it's the small companies that create the jobs and the sustainability and stability in the economy. What makes the United States what it is? It's the plethora of "mama and papa" businesses. I see it in my sector. Sometimes they work with really antique technology, but they have captive markets because they are in areas that otherwise wouldn't be serviced. Now we don't have that in South Africa, and that's the first premise.

The second is: "Engage with major commodity firms to voluntarily facilitate local sourcing", and that's exactly what the mining houses are. There has to be a platform for us to meet, and at the moment there isn't one. We had dabbled in this a few years ago. We tried to get something going in trackless mining and it never came about. If you're going to cluster, you need a champion. They're not easy to find, and if it isn't championed it will die straight away.

The third is: "When necessary, use regulation to compel the companies to increase the breadth and the depth of the linkages", and that's what I'm hoping to show you: a way to increase the depth of the linkages.

WHAT IS A BUSINESS CLUSTER?

The capital goods sector seems to be the only one that's really actively involved with clustering. At the moment, the South African Capital Equipment Export Council (SACEEC) is running 18 clusters, with four more desperately waiting to get involved.

A cluster is *a geographically bound concentration of similar or complementary businesses related via a value chain*. It's very important to think of the value chain. I was speaking earlier with a gentleman from the stainless steel industry. If he's not involved with deliberations within the value chain, what happens? There may be some grades he needs to change. Maybe there is a company out there making something in milled steel that should actually be made using his stainless steel. If they don't meet, they're like ships that pass in the night and no real business is made.

A cluster has *active channels for business transactions, communication and dialogue*. The businesses in the cluster *share specialised infrastructure, labour, markets and services* – and these are the things that we talk about – but they are faced with *common opportunities and threats*. That's the crux. If it doesn't come bubbling out, you don't know where the problem is. In many cases in South Africa, our economy ages prematurely because we don't have that.

The companies are identified by talking with each other, and it's a real contact sport. You have competitors sitting next to each other. Initially they don't want to, but once they see the benefits of the process, they get to the stage where we can't get them out of the car park because they chat so much, because they enjoy meeting fellow competitors or representatives of that industry.

There are various types of clustering. Passive clustering occurs naturally. Maybe there are various factories and manufacturers related to a science park nearby – that is a naturally occurring, passive cluster. Firms congregate over time to take advantage of potential opportunities but enhance these by undertaking further deliberate actions, such as creating economies of scale.

We are involved in active clustering, in which firms realise the potential benefits of active co-operation, enter into closer relationships and set up mechanisms for collaboration in order to reduce costs, develop new or upgrade products or product ranges, develop flexibility and build a "common purpose".

The important thing is that it should fit in with economic policy. Development cluster initiatives are an important new direction in economic policy, building on earlier efforts in macro-economic stabilisation, privatisation, market opening and reducing the costs of doing business. In South Africa, we write many policies, but we've been very, very slow at unpacking these into procedures and processes. Therefore we keep developing new policies instead of actually using the existing policy and tweaking it to fit the purpose.

HOW CLUSTERING WORKS

It involves people-to-people contact. It's more informal than formal. It involves local stakeholders rather than outsiders. It involves collaboration at multiple levels and requires a huge amount of social capital. Initially, the participants are slow to get involved. A little bit like all of you are sitting here, listening to me. Every time we start a new cluster, the members sit around and listen with little interaction between the cluster champion and participants and between the participants. After they've attended four or five meetings, it becomes a very noisy place, because everybody's talking and everybody's chirping, and that's exactly what you want.

It must be led *by* sub-sector participants *for* the sub-sector. You can't, for instance, put people who are making a screening machine, which is used in the mining industry, together with someone who is making roof bolts. The guys who make roof bolts or equipment for underground drilling, digging and cutting want to sit together and the other guys want to sit together. You can't mix them. *Most importantly, you cannot include importers with local manufacturers.* If you do, the cluster is dead in the water and the process will never move forward. You also cannot include the multinationals that send representatives with limited decision-making authority, who therefore cannot really contribute.

It's a continuous process. With the recently introduced state infrastructure development projects, it will be necessary to cluster throughout the process between the suppliers and the customers within the various tiers. It could take 20 years – but out of this we will end up with a very strong industry.

There is a six-step process:

- form a leadership group
- undertake a rough competitor analysis
- form sub-cluster working groups as required
- develop action initiatives – initially short-term actions – to achieve "runs on the board"
- over time, tackle longer term initiatives
- continually encourage communication and out-reach by all participants.

WHAT CLUSTERING IS AND IS NOT

Clustering is not an industrial policy. It is not a lobbying tool or a close circle of friends. It is not about cornering the market or a five-year plan. It is not top-down. It is not solely the private sector: in order to become successful, it must include all stakeholders. If we're going to set up one in mining, we will have to work with the mining houses and their representatives in those various disciplines. Most importantly, as I said, it is not a one-off activity.

Why do we use clusters? Because globalisation is a fact of life. It's as much about defending our economy as building it. Why do the firms cluster? Because they need to improve and sustain their global competitiveness and defend current market share. The platform that clusters provide enables industry to address opportunities and barriers in a way that cannot be done by an individual company or organisation. Yet, within the clusters, companies still aggressively compete with each other. Clustering is a procedure for unpacking remedial actions and improving global competitiveness. It's all about competitiveness.

The formation and success of a cluster depends upon the industrial and technological development of the region; the continuous catalytic involvement and intensity of vertical and horizontal linkages, including between firms, buyers and the state; the efficacy of support institutions and the technological complexity of activities. The dynamism of the leaders and participants of the cluster also has a huge bearing.

Behind all the effort is finding new markets. The strength of the Competitive Supplier Development Programme (CSDP) is not to build capacity to supply into South Africa; it is to build capacity for the global

APEX CLUSTER -GOVERNING BODY:
Government departments, CSIR, Mintek, Universities, Universities of Technology, Council for Geoscience, Education, Labour, Others

MATERIALS HANDLING	ENVIRONMENTAL CONTROL	REFINING MANUFACTURING PROCESS	DRILLING DIGGING AND CUTTING	DESIGN AND PROJECT MANAGEMENT	CONSTRUCTION	FINANCE	ELECTRICAL AND INSTRUMENTATION
EARTHMOVING	VENTILATION	HEAT EXCHANGES	DRILLING AND BORING	EXPLORATION	PILING	PROJECT FINANCE	SWITCHGEAR
CRANAGE	WASTE DISPOSAL	CRUSHERS/MILLS	BLASTING	SITE EVALUATION STUDIES	FOUNDATION LAYING	WORKING CAPITAL	COMMUNICATION
CONVEYING	REFRIGERATION	SCREENS	CLEARING	PROCUREMENT	SLIP FORMING	DEVELOPMENTAL	SAFETY EQUIPMENT
PUMPS	WATERHEATING	HEATING	SPECIALISED-OFF-ROAD-VEHICLES	ENGINEERING AND PROJECT MANAGEMENT	BUILDING/FINISHING	FINANCE	LIGHTING
VALVES	BACKFILLING	PUMPS	SAFETY EQUIPMENT	STUDIES	ERECTING	TRADE FINANCE	SENSING AND CONTROL
SCREENING	PIPING AND DUCTING	VALVES	EXCAVATING		SITE EVALUATION		IT
SPECIALISED MINE	FILTERS	FILTERS	PUMPING		SLAB LAYING		STAFF MONITORING
VEHICLES	DUST CONTROL	FURNACES	EXPLOSIVES		STEEL FABRICATION		
CRUSHING	ORE ANALYSIS	DRYERS	SUPPORTING				
WASTE DISPOSAL	CEMENTATION	SAFETY EQUIPMENT	TUNNELING				
CRANES/WINCHES	FIRE PROTECTION	WASTE DUMPING					
HOISTING	PERSONNEL CLOTHING	CONVEYING					
PIPING	FANS	PIPING					
TRACK/TRAINS	COMPRESSORS	REAGENTS					

markets so that we can compete around the world, even beyond Africa. Within the capital goods sector we spend much more time in Latin America than we do in any other region, because we know we're competitive in those markets. The basis is innovation. You've got to unearth that. Those of you who have ever been in a think tank realise the enthusiasm that bubbles out when a whole lot of like-minded people get together. This is what the cluster does – it gives the opportunity for everybody to bubble together and think of new things.

A CLUSTER MAP FOR THE MINING INDUSTRY

A cluster for the mining sector will need a governing body at the top, which I believe should be the department of trade and industry (DTI). One of our biggest problems in South Africa is this silo mentality among the ministries, and the DTI is the only one with a strong enough position to force them together. We need that at the top because of all of the production issues, and because the growth opportunities are invariably crosscutting.

In this example, the main clusters are the vertical ones: materials handling; environmental control; refining, manufacturing and processing; drilling, digging and cutting; design and project management; construction; finance; electrical and instrumentation.

You may have to break it down into smaller sections or product groups if they're going to be designated [for local production by the DTI in terms of the Preferential Public Procurement Finance Act and the National Industrial Participation Programme]. The SACEEC has two very strong clusters that are a long way down the track, one for valves and one for bag-filters. They've got their designation status, they work very closely with Eskom and the state-owned enterprises, and they're doing that hard work of convincing the municipalities. But because they've achieved designation, they usually get a good hearing. At the same time, those very companies are building capacities, because they're exporting as fast as they can. That is important. You have to do both together. You cannot hope to fill the local market, and then afterwards – once you've built X amount of capacity – go into the international market.

> The platform that clusters provide enables industry to address opportunities and barriers in a way that cannot be done by an individual company or organisation. Yet within the clusters companies still aggressively compete with each other.

At the moment, the SACEEC is pioneering clusters in the infrastructure projects, but eventually I hope to slot them off into the various sectors.

Linkages are critical

To develop the interface

By **Paul Jourdan**

The author is an expert in African integrated development and prepared the report on State Intervention in the Minerals Sector (SIMS) for the ANC

I'm confused. If we look at the history of mining and manufacturing policy in South Africa, we find a century of stability around what was basically import substitution industrialisation (ISI), the final form of which was Volkskapitalisme *– a sort of developmental state for one little ethnic group. We hate to admit it now, but they got many things right in the days of Hendrik van der Bijl. Then came the dramatic change in 1993 with the World Trade Organisation negotiations on tariffs and trade, where we decided to drop our trade barriers and become internationally competitive – but we forgot about all the monopolies that we had inherited from a century of ISI!*

The ANC has also had a fairly consistent industrial policy. The 1992 "Ready to Govern" document is clear that we need to use mining to develop the upstream capital goods and downstream beneficiation industries. The 1994 Reconstruction and Development Programme (RDP) and the 1995 ANC Draft Minerals and Energy Policy went into greater detail on this. And then we went off in anther direction. We went into "reverse-GEAR" with Washington Consensus "free market" strategies, which included allowing our mining houses to exit. The apartheid government had never let the companies leave, but suddenly we allowed it.

We also saw the destruction of our energy advantage under "reverse-GEAR": we wouldn't allow Eskom to build because Treasury wanted it to be done by private-sector independent power producers (IPPs). This caused a massive delay because the private sector couldn't come in at the Eskom tariff. Eskom told us in the '90s that we would run out of power in 2006 – they got it wrong by one year. By the time we did decide to build, the cost of a power plant was nearly three times what it would have been in the late 1990s.

Then came the 2007 ANC national conference in Polokwane, and we thought, okay, the crazy days are over. The "developmental state" (RDP) was back, and the mining–manufacturing interface was very clearly set out: the comparative advantage embedded in our minerals would be used to develop these linkage sectors. Then came the New Growth Path (NGP), which expands even further on it, and the ANC State Intervention in the Minerals Sector (SIMS) report, which gives 400 pages of interface detail.

Then, at the ANC conference in Mangaung in 2012, we've got the National Development Plan (NDP) and reverse-GEAR all over again. Well, I'm confused – and I consider myself an ANC cadre. The rest of you must even be more confused than me.

CRITICAL LINKAGES

Beneficiation, which is the interface between mining and manufacturing, is a circle. It's the total value-added in the final exported product, upstream and downstream. The politicians often think it's only downstream, but upstream (mining inputs) is possibly even more important. Many of the feedstocks into mining inputs – the capital goods – *are* in fact coming from mining. Steel is responsible for 30 to 50 percent of the input costs (excluding labour) of the Ekurhuleni mining supplier cluster, according to a report by Corporate Strategy and Industrial Development (CSID).

This interface also fits into the view of Justin Lin, the former World Bank chief economist, that we should use our static comparative advantage to create a competitive advantage. But to do that, we need to get the fiscal linkages right, particularly the resource rents, and their reinvestment into infrastructure, both physical and human (skills), to underpin competitive manufacturing.

There are five critical mineral resources linkages:

1. fiscal linkages, which I've just mentioned
2. spatial linkages: the infrastructure that mining puts in for use by other sectors
3. backward (upstream) linkages: the capital goods, consumables, services
4. forward (downstream) linkages, which is the narrow definition of "beneficiation"
5. knowledge linkages: science, technology, engineering and mathematics (STEM) skills and technology development capacity.

The knowledge linkages in mining include human resource development (STEM skills), technology development (R&D), and geo-survey. It became very apparent during the SIMS study that these are the prerequisites for developing the interface, and the most critical. If you don't get knowledge linkages right, you won't get the backward linkages. Capital goods manufacturing – equipment, plant, rigs and so on –

basically needs to be fed with engineers. So we're in a bit of a problem there. We're spending close to 30 percent of expenditure on education, but we're not getting what we need in terms of the matriculants with maths and science coming through.

This is all intricately interlinked. If you don't capture the fiscal linkages, you can't invest enough in the knowledge and infrastructure linkages, and then you can't get the backward linkages, etc. We need to tackle them all to get a growing manufacturing sector benefitting from our resource endowment and creating jobs.

LESSONS FROM OTHER ECONOMIES

Looking at other resource-rich economies, we can compare the strategies of Finland and Chile. Chile also adopted a GEAR-like policy and moved from a manufacturing trajectory to primary commodities. Although their economy has grown, it's grown with more "bananas": salmon, forestry, minerals. Finland did the opposite. In 1980, they were still on the primary commodity curve and then they moved onto the manufacturing curve. What made the difference? They went for the very interface that we're talking about. They used their natural resources, particularly wood, to drop raw exports and increase value-added exports. They also went upstream into resources machinery and capital goods, and that's basically what initially industrialised them. They worked from their comparative advantage in forestry and mining in order to industrialise. We have a similar possibility in our PGMs cluster. But where we create about one job directly for every resource job, Finland gets three to six because they've got very low leakages. They make nearly everything that goes into their resources sectors and import very little.

In 2011, the Research Institute of the Finnish Economy (ETLA) completed a major study on the broader economic impact of their minerals sector and showed a 6:1 mining employment-generation ratio (50 percent abroad) in other upstream and downstream linkage industries, due to their well-developed mineral linkages. They get about three times the linkages that our mining industry gets and, in fact, a lot of their linkages are in South Africa. We see trackless mining coming into the South African platinum mines and it is creating jobs in the Nordic countries and the Czech Republic. We've got a powerful "fifth column" in South Africa: it's called the mining industry.

Technology development was critical in Finland, with enormous support from the state. At 4 percent of GDP, they are the highest spenders on R&D in the world. That's almost double the US and more than four times higher than South Africa. And also STEM skills production. It always goes back to the skills, to underpin industrialisation.

Norway had exactly the same strategy. Realising that their hydrocarbon resources are depleting, they developed the Oil and Gas for the 21st Century (OG21) strategy. They focussed on greater technology exports, greater gas value-addition, greater investment in technology for more resources and greater recovery. They will go up, instead of down, and all of this is underpinned by knowledge linkages. Their state company Statoil has trained over 75 000 people since the 1970s. They prime the system with the most important commodity – mainly STEM skills.

FOCUS ON MINING INPUTS

Why go for the mining inputs market? First, we have a relatively large market. If you look at fridges, we are about 1.5 percent of the global market, but if you look at mining chemicals, we're 10 percent. That's more than the whole of Europe. In these niches, we have relatively large markets.

Secondly, we need to develop mining and processing technologies for local conditions. We used to do that. COMRO, the Chamber of Mines Research Organisation, was 600 strong. It developed impact rippers, hydraulic drills, etc. According to the internet, it was the largest privately funded research organisation in the world. It was enormous, bigger than Mintek – and it's gone. Our mining industry decided that "we don't develop technology; we purchase technology". One of the captains of the mining industry actually said this. Technology development is critical for developing the interface, especially for capital goods.

Thirdly, South Africa's mineral wealth is a national asset and the state can concession mineral resources with strong linkage conditionalities. Under the WTO rules, the government can't have a direct "buy local" policy, but it can concession or lease national resources with up- and downstream conditions. A mining right is a time-dependent lease, so you can put local content and value-addition conditions into the lease. If they don't keep to the milestones of those conditions, you can take the right back. There's an argument about whether you've got to move all your mineral rights into a state company to do it, but we know many countries have done that, including Norway.

We have heard that larger markets are critical to developing manufactured exports and that the world has changed geopolitically. These are enormous markets we have to contend with: the EU, China, India. NAFTA [the North American Free Trade Area] has about 500 million people. And then there's little South Africa at 50 million. Even the Southern African Development Community (SADC) is only the size of Brazil, both in area – about 6 million square kilometres – and population, about 200 million. SADC is a warthog among the elephants of the new global dispensation.

However, our exports of diversified manufacturing to Africa are now equal to our exports to the EU. I'm excluding "bananas" like minerals, metals, alloys and commodities like that. This is real manufacturing: equipment, vehicles, finished items. Our mining equipment exports to Africa have gone up 400 percent in the last 10 years, despite the lack of state support. The Nordics give extensive skilling and R&D support to their resources capital goods sectors, including prototype development. (That's legal under WTO rules, by stretching the "D" in R&D. As long as you don't subsidise production, you can subsidise the development of new products.) In South Africa, we don't help Bell or Rham or Dezzi to develop new trackless-mining machinery prototypes.

We see pretty robust growth in sub-Saharan Africa. SADC now has GDP of $1 trillion. South Africa's proportion of that is falling, because the other countries are growing faster. And what is their biggest growth sector? Mining. This represents a fast growing market for mining inputs.

NEEDED POLICY INSTRUMENTS

We've just done a report for the DTI on growing the interface and made 25 policy recommendations. I'll touch on a few major issues.

First, we have to discipline the price of manufacturing feedstocks. Sasol and Arcelor-Mittal South Africa – both formerly state-owned companies – are the biggest abusers of import parity pricing (IPP). If our steel is up to 50 percent more expensive than Bao Steel in Shanghai, we're blown away even before we start the race. We're not even in the starting blocks. So how do we curtail the rampant monopoly pricing? There are several options we need to develop and implement:

- we could reinforce the Competition Commission so that it is able to discipline them harder
- we could change the Mineral and Petroleum Resources Development Act (MPRDA) to include competitive or export parity pricing (EPP) of mineral-based intermediate products
- how about a compensation fund to compensate our manufacturing sector for that difference (IPP-EPP)? That would then force AMSA and Sasol to drop their prices.

Another policy issue is the introduction of a resource rent tax (RRT), that is, a tax on unearned returns and above-normal returns on investment. Manufacturing doesn't have resource rents, but mining can have enormous ones. For some, like iron-ore mining, it's in the hundreds of percent. RRT is the least distortionary of taxes because it is only triggered after a normal return has been made. That means it doesn't affect any marginal mine or deposit.

The RRT receipts should then be deployed into (1) development of STEM skills, technology development and our geo-survey – we are not investing in our mines – and (2) development of regional trade infrastructure. I think the NGP is correct about this. Angola is a booming market, and we can't get there. It is exporting $80 billion per year in oil, but there's no rail link and there's no proper road link. It's easier to access Angola from Brazil than from South Africa. We need to develop this infrastructure, for our neighbours and for us. I agree with the regional infrastructure fund that is mooted in the NGP.

If we introduce a resource rent tax, it could be offset against the degree of value addition, both the local content and value-addition before export. The mining company wouldn't have to do it in-house, but would be rewarded with a lower RRT to the extent that it facilitates value addition in South Africa.

As I mentioned, we can amend the MPRDA to include linkages, with milestones, in mining concessions. We could also make local content commitments a bid variable for bids on new deposits. We need to re-establish national mining R&D capacity, to rebuild something like COMRO as a partnership between the state and the private sector.

We need to establish a mining-inputs industrial cluster – this is a critical sub-cluster of the larger capital goods sector. We need to jointly develop comprehensive sub-sectoral industrial strategies, including state departments, knowledge providers (both R&D and human resource development) and the private sector.

What can we do within the WTO constraints? We could assess instruments such as import/export tariffs, investment incentives, innovation stimuli, helping with market access, access to finance, competitive inputs, possibly infant-industry subsidies, technology development, skills development, etc.

We could task the IDC and our nascent state mining company with developing the interface, following the example of Norway's Statoil and many other countries. We could also establish special economic zones (SEZs) for beneficiation, e.g. the mooted "Platinum Valley", and develop regional trade infrastructure strategies for growing mining-inputs markets.

A combination of the knowledge institutions, government, mining input industries, feedstocks producers and industry associations could build a platform for this cluster, using infrastructure (both physical and human), incentives, trade strategies – both defensive against imports and offensive for exports and trade access – and the feedstocks.

ON THE WAY FORWARD

What we can take away today is to look at jointly putting together a mining inputs cluster (MIC) that is tight and not too big. Clustering always works better with tight sub-clusters and sub-sub-clusters. That MIC would then develop strategies and ensure that government policies and legislation are adapted and refined to support those strategies.

Infrastructure, finance, skills and technology are the enabling environment for production. Ultimately, we'll succeed through new investment in a particular factory or plant somewhere that gives us greater local content in our mining industry, in the regional mining industry, and greater exports.

Can business and government find trust and partnership?

By **Alistair Ruiters**

The author is the executive chairperson of Afarak South Africa and a former director-general of the department of trade and industry

The question we set out to answer this morning was: can manufacturing and mining find common ground so as to increase the level of beneficiation of ore or mined minerals? Several inputs today pointed out why beneficiation is important and necessary for South Africa to move up the value chain. Unlike our first workshop a few months ago, less time was spent on debating whose responsibility it is to beneficiate. We are all in agreement. Both the mining and manufacturing sectors have to seek opportunities to beneficiate. All participants also agreed that, for beneficiation to be successful, government and business have to work together. The discussion then shifted to the relationship between government and business – or, in this instance, the lack thereof.

COMMON GROUND?

Business claimed that government has not done enough to lower the costs of doing business and never considers their proposals seriously. Government expressed its own frustrations, arguing that business is not doing enough to play a role in transforming South Africa from a society based on exclusion to one that is more inclusive. There were also indications of deeper levels of frustration. "The house is on fire, and we're having a *discussion*?" "Business and government are talking past each other. Everyone is talking and nobody is listening." "The formal structures set up to encourage communication between business and government are dysfunctional". In short: business does not trust government, and vice versa. In some cases, the relationship has deteriorated to hostility and an inability to communicate.

As we attempt to understand this issue, it may be necessary to take a step back. Along with Paul Jourdan and a few other people in the room, I was fortunate to join the new government in 1994 and to have taken part in the processes that led up to it. So there is enough institutional memory here to remind us that the failure to develop a consensus view is not new to our democracy. It is exactly the same issue that we have dealt with since 1992, 1993 and 1994. It would be naive to think that these differences should go away. In most countries, there is a tension between government and business. It may well be the case in South Africa that business and government have different ideological departure points. On the other hand, there are instances where business and government do form partnerships. On the export side, they can "hunt in packs" for new markets; on the domestic side, they form alliances to save existing industries, spawn new ones and increase the competitiveness of others.

So why have we not made any progress towards bridging this divide? Are there particular moments where a partnership has generated success? Finally, if there are instances of success, are there any common themes we can draw on?

OUR RECENT HISTORY

Looking back, there are specific instances where business and government have co-operated.

Organised labour and community organisations have also been an integral part of these processes, which can be divided into four categories:

- **legislative**. For example, the Competition Act and the Labour Relations Act
- **financial incentives**.Financial support and incentive programmes have been created through the collaborative effort of government, business and labour. For example, the Fund for Research in Industrial Development, Growth and Equity (FRIDGE) was started in NEDLAC (the National Economic Development and Labour Council) in 1997 or '98 to address business concerns when the General Export Incentive Scheme was being phased out
- **policy.** Many policy decisions were not taken through NEDLAC, which was intended to deal only with economic legislation. However, prior policy discussions were integral to the success of any intervention. Issues were often not resolved but each constituency had the opportunity to raise concerns. So yes, there was a lot of talking – but talking is often the best way to deal with high levels of mistrust
- **campaigns.** For example, Proudly South Africa.

There are other examples where government successfully engaged business and labour outside of NEDLAC. The best example, and perhaps the programme most often mentioned, is the Motor Industry Development Plan (MIDP). Planning started in 1993, it gained traction in 1994–5, and today we're seeing continued results. That process was led by a minister with the CEOs of all the motor companies. Several attempts to repeat it have had little success. Uppermost in my mind is the failed clothing and textile initiative of the early '90s.

Both NEDLAC and government-led processes are still being pursued with vigour, but these tripartite social engagements and sector-wide processes are often replaced by individual enterprises lobbying to facilitate their interface with government. Or this responsibility is left to the BEE partner. What are the key lessons from this short overview?

- collective institutional process must be deepened. This requires the right people in the room at the right time – not representatives who merely sign an attendance register and use the opportunity to ensure that the competition does not obtain any advantage
- evidence-based interventions require government and business to commission more research and data collection. Joint research may also be important as it builds consensus around whether we are asking the right questions
- implementation skills: a competent public service and business people who understand the environment beyond their narrow product-specific interests. We need more lateral thinking from business representatives
- ongoing monitoring: measuring what we are doing and comparing our performance with that of our peers
- dealing with "unintended consequences" and having the courage to intervene and correct what is going wrong. Too often we end up defending a bad outcome for the wrong reasons.

BACK TO THE MINING INDUSTRY

The discussion today, which started with the question of how to expand the mining industry, reveals once again the huge divide. Government believes that the only way to grow the industry is to regulate it. Business believes less intervention will create improved conditions for growth. If we accept that regulation is here to stay, then the discussion shifts to what kind of regulation: light or heavy and with what objectives? Government's objectives include safety, inclusiveness and revenue generation. The mining industry's objectives have been and will always be profit maximisation and increasing shareholder value.

Policy-making is the art of navigating compromise and finding balance amidst a sea of divergent interests and objectives. There is one primary objective here: to maintain the competitiveness of the industry or a specific sector. The other objectives are important but secondary. Through a process of negotiation, these have to be ranked in importance with agreement as to how to manage them. Ideally, we should find a solution in which all stakeholders benefit. This means, in this case, finding a balance between growth and equity.

In the past ten years the mining landscape has changed fundamentally. Government intervention, globalisation, the emergence of China as a major consumer of South African minerals, new entrants, new mines, a bigger role for communities, BEE, water, the environment, logistics and electricity – these are all part of the challenging environment in which to operate a mine in South Africa. At the same time, there is no uniform vision of mining's future. We have no sectoral strategies, no product-specific campaigns. Attempts to bring the industry and government together have faltered, often for reasons unrelated to whether or not a common vision is possible. In instances where I have been involved, they have failed because of trust issues.

The consequence of this has been lower investment rates, lower investment in technology, and a drive for short-term gains. Markets (in particular China) have been oversupplied with South African material, lowering prices and making it difficult for individual enterprises or mines to remain competitive. Whatever cost advantage South African smelters may have had from our rich endowment of minerals is therefore lost, making beneficiation commercially unattractive.

Many argue that the loss of competitiveness has resulted from the imperative for a more inclusive mining sector – that BEE and increased demands from communities and labour are the reasons why mining investment has faltered. Frankly, I consider the issues of BEE, communities and labour to be time-intensive issues, not capital intensive. They take up an enormous amount of management time and require a set of skills that is in short supply in South Africa.

On the smelting side, the biggest single factor driving costs is high electricity prices. Electricity can make up more than 30 percent of the cost of production of charge chrome. Ore prices, reductants and logistics are the next most important factors. The cost drivers in mining have changed fundamentally because of Eskom, not because of labour. New mines in South Africa often operate on diesel for the first two or three years, before power becomes available. The cost and the high rate of diesel theft make the cost of power extremely high. Logistic costs have also increased substantially. There are two points I would like to draw from this. In both cases, these are services provided by the parastatals. Clearly, as the single shareholder of these entities, government has to make some intervention to minimise price and maximise the externalities or collateral benefit to be obtained. Secondly, is it not ironic that these are the two instances where price goes up and service and reliability of supply declines?

In this context, I am strongly opposed to those commentators who say that mining's problems are because of labour. When I visit our mines and furnaces and I observe the conditions under which workers live and work, I cannot reach the conclusion that workers are the problem. Frankly, I believe that we mine management and shareholders are the problem. We have not created inclusive workplaces. The racial and gender dynamics on our mines may have changed marginally, but the underlying schisms as reflected in our society and replicated on our mines are still the same. White miners go home to one area and black miners go home to another. After all these years, the black management gets to live with the white managers, but the majority of workers still go home to a township. Fundamentally, the perception remains of mining as a low-waged and dangerous industry in which to work.

We need to start a discussion within the mining industry, in an open and frank manner, about what kind of mining industry we aspire to. How to achieve a more inclusive society is not the preserve of government. All sections of our society should be actively involved in this introspection. In my view, it is highly unlikely that the government will take you seriously in the first instance if you don't start this journey on your own. In the second instance, they are almost certain to regard a discussion about competitiveness with suspicion and scepticism if the mining industry cannot itself articulate a transformed vision. So we arrive once again at the issue of trust. We have not created the conditions for a relationship of trust. Why should the government support a mining industry whose benefits are not widely distributed?

The factors that undermine trust are also the mundane day-to-day issues. When entrepreneurs and business people phone a department and cannot get through to speak to someone, or try to apply for a particular support measure and can't get access, they feel frustrated and powerless. Their suspicion of government deepens and they invent reasons about why they believe they are not being dealt with fairly.

Policymakers often assume that their prescripts will translate into concrete action. The reality is that there's a big divide between policy and what businesses actually experience. This doesn't only apply to national departments. It is a fundamental issue. Can we shift the discussion, as we did today, away from policy towards implementation? In my experience – and not just in the DTI but across the world – there are always problems with accessing government. I don't know how you fix it, but it has something to do with marketing those incentives to people. If we have any prospect of achieving common ground beyond this conference, we will need to unpack these value chains and start talking about very specific interventions.

For the last twenty years, we've been saying that the economy has changed and therefore government has to change. Is the DTI structured correctly to service business? Do we need the department of mineral resources (DMR) sitting inside the DTI in order to get this alignment of mining to manufacturing right? Part of the frustration is trying to locate all the government departments that have crosscutting influence and bringing them to sit here today. Do we need an independent mines regulator? Should we merge the efforts of DTI and DMR to focus on competitiveness interventions? This would fundamentally change the way in which business support measures are implemented by all stakeholders in this very important sector of our economy.

It's easy to come to a conference like this today and say that the DTI is the problem when, in fact, there's a problem on both sides. We have to begin to build trust by talking openly. We need leaders on both sides who are prepared to speak the truth and not those who are afraid to say anything because there might be some retribution. Building an open society in which business and government accept their differences but commit to building a more inclusive society is part of the project of strengthening our democracy. If we don't intervene, chances are we are going down a slippery slope where we all just shut up and accept the lowest common denominator. That will certainly not create an inclusive economy, a growing economy and a better society for all.

Turning resources to advantage:

Concluding remarks

By **Ben Turok**

This very rewarding conference has brought out strongly that the interface between mining and manufacturing is full of potential. Numerous activities are already underway in both the supply chain and in beneficiation, to the benefit of both sectors. What is lacking, however, is a national dialogue to give shape to what is happening and how it can be promoted in a way that will advance industrialisation across the board. It is also necessary for business to be far more outspoken about its needs so that the whole country can join a debate that has been largely confined behind closed doors.

In my work around beneficiation, I've heard many objections to the strategy of using mineral resources to build local manufacturing. Some academic economists, citing the examples of Singapore and

Switzerland, believe that there is no necessary advantage to be found in linkages between domestic mineral resources and manufacturing. They argue that what matters is capabilities, not natural resources. The South African Chamber of Mines showed an initial formal resistance to building the interface, preferring to believe itself an independent enclave within the broader economy. I believe that what we have heard at this conference demonstrates clearly that proximity can be used to huge advantage, and that having natural resources provides an incentive to build the necessary capabilities.

Others agree that, while such an interface can be effective, there are various reasons why South Africa should stick to exporting mineral ores: our domestic market is too small for manufacturing, or we do not have sufficient capital domestically to finance both mining and manufacturing, or we cannot be competitive internationally, or our workforce is too unskilled for industrialisation.

Although there is room for disagreement, all of these arguments have been countered today. First, the domestic market is useful to grow infant industries, and many mining houses that export raw ores are also supplying substantial alloys for the domestic market. Second, the problem may not be a lack of capital, but that capital is presently being invested for purely short-term financial objectives. Third, many South African enterprises are actually able to compete internationally. Fourth, companies in both mining and manufacturing are training their own employees to the required standard. Even workers who come from rural areas where basic educational levels are rather low are producing for international markets.

> If we concentrate on the whole value chain – and not only on beneficiation after processing – the most valuable multipliers come into focus.

The key to expanding the interface between mining and manufacturing seems to be finding the correct multipliers in a particular sector. If we concentrate on the whole value chain – and not only on beneficiation after processing – the most valuable multipliers come into focus. A great number of the inputs into the mining industry are sourced locally, but clearly there are opportunities all the way from exploration to extraction, processing, beneficiation, fabrication and marketing.

> The key to expanding the interface between mining and manufacturing seems to be finding the correct multipliers in a particular sector. If we concentrate on the whole value chain – and not only on beneficiation after processing – the most valuable multipliers come into focus.

It is also encouraging that, although the manufacturing sector's contribution to GDP is falling, it is not contracting in real terms. Indeed, it is strengthening with the rand at a lower level, showing once again that the exchange rate plays a crucial role in the performance of an economy.

GOVERNMENT–BUSINESS RELATIONS

Several participants referred to difficulties between government and business. Perhaps government departments are sensitive about private sector lobbying for tariffs, incentives, tenders and the like, but it is also the case that the business sector has too many different associations. Even within one industry, there are often competing and opposing claims on government, such as the desirable exchange rate.

There were also complaints about various ministers holding diverse positions on economic policy. Unless the government is more decisive about our priorities, these uncertainties will remain. From the perspective of this conference, a decisive commitment to promote rapid expansion in all areas of the mineral value chain would open the way for a substantial boost to economic growth and development.

The dearth of skilled personnel was often mentioned. While the existing workforce is entitled to a degree of protection, it cannot be in the national interest to bar the importation of skilled workers who could both provide the necessary skills for industry and train local workers to take their place in due course. It only requires proper management to get this right.

The issue of protectionism versus competitiveness arose on several occasions and is a regular topic in debates. My view is that we need to build a competitive economy but we also need to nurture infant industries. The international experience, in countries like South Korea and China, is that state-supported protection is essential in the early years. The provision of state incentives, procurement support, cheap inputs and import control enabled industries to reach maturity and be competitive internationally.

The exchange rate is a highly contentious issue, with the Reserve Bank and the Treasury holding very strong views. We need to arrive at a national policy that seriously considers the desirability of fostering industrialisation as a foundation for the rest of the economy. Given the present decline in many of our natural external markets, a degree of self-sufficiency would seem to be necessary.

The mining industry is also deeply concerned about the inadequate supply and dramatically rising costs of energy. There is no sense in talking about a "capable developmental state" if the state fails to provide infrastructural needs at suitable prices. This applies to energy and to domestic transport and ports, where there is no certainty on prices or available capacity.

The government is also accused of tying the hands of business with red tape. Cases of deliberate obstruction need to be exposed, as well as official procedures that impede efficient operations.

Finally, we come to the vexed issue of investment in infrastructure. Government has committed to spending over R800 billion over three years on infrastructure, without indicating where this money is to come from. The budget is constrained, and there is indeed a reduction in the proportion allocated for capital spending. The state-owned enterprises (SOEs) are meant to provide a great deal of this funding but there are limits to the amount of capital they can raise domestically and abroad.

This means that the private sector will have to come to the party. There seem to be huge reservations about this, and capital is leaving the country for offshore investment. Even some SOEs and the Public Investment Commission are moving funds abroad. This trend has to be reversed. This conference suggests strongly that the domestic value chains from mining to manufacturing offer many real opportunities for investment and enterprise that could revitalise South Africa's economic and industrial development.

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