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Concourt Judgment: ANC called to order

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AQUACULTURE RESEARCH UNIT, UNIVERSITY OF LIMPOPO:

A CENTRE OF EXCELLENCE ON THE CULTURE OF FRESH WATER FISH SPECIES IN THE FACULTY OF SCIENCE AND AGRICULTURE, UNIVERSITY OF LIMPOPO

The Aquaculture Research Unit was established in 1998. Right from the onset the unit focussed on the culture of tilapia and catfish. These are the two warm-water fresh water species that are found in the rivers and dams in Limpopo Province. Tilapia is a very popular fish food in South Africa and it was therefore prudent for the Unit to investigate how tilapia production could be boosted in South Africa. The Aquaculture Research Unit is currently looking at tilapia and catfish nutrition. Professor NAG Moyo is currently heading the research team at the Unit. He has extensive experience in freshwater biology and is an NRF rated researcher. There are two other researchers at the unit. Dr SN Hlophe is a senior researcher and has published eight articles in the last three years in international journals. Mr J Theron is a researcher who has been with the Aquaculture Research Unit for fifteen years and he is the point man in our extension and community service activities. Ms Rapatsa is a doctoral student who will be submitting her thesis in two months. She has carried out groundbreaking research in the area of fish pond dynamics and has published six papers in highly regarded international journals. Mr Mbokane recently registered for a PhD degree and will look at ways of improving fish immunity.

The Aquaculture Research Unit boasts of an impressive array of aquaculture facilities. There is a recently constructed aquaculture recirculating system (RAS) with 80 experimental tanks and state of the art filtration system. Hatchery facilities at the unit are adequately equipped and are used to breed tilapia and catfish.

Professor NAG Moyo

Furthermore, the Unit has more than 25 grow out tanks designed to test the commercial production of tilapia and catfish. Each tank can hold up to 45 000 litres of water. Recently there has been an upsurge of interest in ornamental fish husbandry. It is against this background that the ornamental fish tunnel is being renovated. There is a water quality laboratory and fish nutrition laboratory. For field trial experiments, the Unit has acquired 20 aqua dams. There are also 20 earthen fish ponds. The Unit has been producing catfish fingerlings for the Provincial Department of Agriculture and individual farmers.

The Aquaculture Research Unit only offers postgraduate programmes: they are BSc Honours, MSc and PhD in Aquaculture. On average we admit 8 students annually in the honours programme. Training at Honours level is practice-based. Students are trained in the areas of fish nutrition, fish reproduction, water quality and fish pond management.

The ever-increasing cost of fish meal has affected many fish farmers. More than 60% of the production costs at fish farms go towards fish feed. In the last few years we have looked at the possibility of replacing fish meal in the diet of tilapia and catfish with kikuyu leaf meal. Our work has been published in International journals with high impact factor such as Aquaculture International, Aquaculture Research, and Applied Ichthyology. Two recent articles that have generated a lot of interest are:

- Hlophe SN and Moyo NAG (2014). A comparative study of on the use of kikuyu and moringa as protein sources in the diet of the herbivorous Tilapia rendalli. Aquaculture International 22(4): 1245-1262.
- Hlophe SN, Moyo NAG, J Ngambi and I Ncube(2015). The effect of exogenous enzyme supplementation on growth performance and digestive enzyme activities in Oreochromismossambicus fed kikuyu based diets. Aquaculture Research: doi 10.1111/are.12828.

The work on kikuyu grass will soon be patented. We have also started looking at insects as a resource that can be used to boost fish production. We have already published the following paper in an international journal with a high impact factor:

- Rapatsa MM and MoyoNAG(2015). An investigation into the physico-chemical factors affecting the abundance and diversity of aquatic insects in organically manured aquadams and their utilization by Oreochromismossambicus. Eviron. Entomol. 44(4): 990-998.

The Aquaculture Research Unit is not only going to look at increasing fish production but we are now also looking at the mass rearing of insects which are an important source of food for fish. In this regard, we have identified the mopane worm as our target species for mass production. NA

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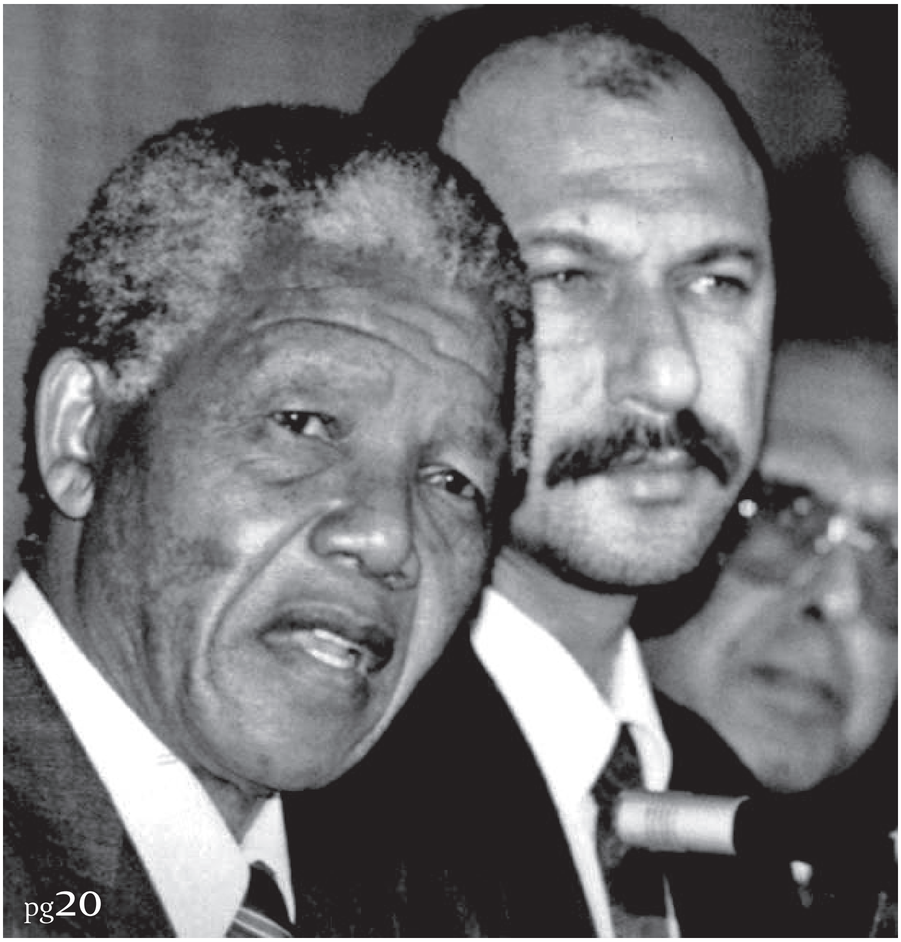

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EXPERTS CONCLUDE A MEETING IN JOHANNESBURG, SOUTH AFRICA, TO REVIEW A MAJOR DRAFT REPORT ON MINERAL BENEFICIATION FOR AFRICA'S MINERAL RESOURCES

Johannesburg, South Africa, Wednesday 13 April 2016 (ECA): A two-day Expert Group Meeting convened in Johannesburg, South Africa, to examine a major study commissioned by the Capacity Development Division (CDD) of the Economic Commission of Africa (ECA) in collaboration with the African Minerals Development Centre (AMDC) successfully concluded this afternoon.

The study, titled "Domestic Beneficiation and Value Addition in the Mineral Sector in Africa: A case study of Minerals and Industrialization in South Africa", explores an ever-present challenge in Africa's economic policy landscape – how best to maximize the benefits Africa derives from the exploitation of its abundant natural resources and particularly how best to harness the endowment to serve as a springboard for the continent's much-needed industrialization. The draft report was prepared by a high level team of academics, researchers and consultants led by Professor Benjamin Turok of the Institute for African Alternatives (IFAA), based in Cape Town, South Africa.

The meeting was officially opened by Mr. Tapiwa Samanga, Chief Director at the Department of Trade and Industry of the Republic of South Africa, who extended a warm welcome to all the participants and underlined the importance and timeliness of the report on beneficiation for his country as well as Africa at large. The Chief Director particularly underlined that "while South Africa battles to stabilize its mining sector in the face of depressed commodity prices, the country is eager and ready to engage partners on the continent, to develop viable solutions to optimize the benefits of mining."

Also speaking at the opening session, Dr. Martin Ndende, Senior Regional Advisor in CDD and Officer in Charge of the Natural Resources and Sustainable Development Cluster, also expressed his appreciation for the people and Government of South Africa for their warm welcome and hospitality.

The primary purpose of the study was to conduct an in-depth analysis of the South African minerals sector in order to: (1) identify the potential beneficiation opportunities that may exist within the industry; (2) assist the South African government to devise strategies by which to exploit those opportunities; (3) encourage South African mining companies that governmental measures to promote value addition can enhance their competitiveness and serve their long term interests; and (4) propose lessons that may be learnt by other African countries in their efforts to add value to their mineral exports.

It follows that the primary purpose of the meeting was a simple but also important one – to critically examine the draft report against these objectives, debate over, challenge and enrich its approaches, findings and recommendations, and provide feedback for its further enhancement. To that end, each of the nine chapters were presented at the meeting by the authors themselves, Professor Anthony Black, Professor Chris Callaghan, Professor Michael Kahn, Professor Richard Levin and Professor Pundy Pillay, supplemented by comments from two discussants in each case and enriched through lengthy and insightful discussions by over 30 experts drawn from several African countries, academic institutions, the NEPAD Agency and sub-regional offices of the UNECA.

Right at the beginning of the meeting, Prof. Turok provided a comprehensive overview of the issues addressed in the report, the multidisciplinary team of researchers who used equally multidisciplinary methods to tackle those issues, the tentative findings they arrived at and the conclusions and policy recommendations that flowed therefrom. Among the important conclusions and recommendations Prof. Turok underlined were the need for African countries and continental institutions including the UNECA to conduct value chain analyses for each and every significant mineral in each and every African country, to go beyond the specifics and unpack the concept, and to understand the complex mix of preconditions that need to exist in order for successful beneficiation to take place.

By the end of two intensive days of presentations and debates, the high level experts at the meeting were unanimous in their praise for the quality and richness of the report and the soundness and practicability of the policy recommendations. The meeting also suggested a number of ways to further improve the quality and relevance of the report, which the team of consultants has taken on board. The draft report, after a final revision to reflect these proposed changes and some editing and formatting, will be submitted to the UNECA for consideration on next steps, including publication and dissemination.

DANGEROUS TIMES

By ***Ben Turok***

Economic crime is at a "pandemic level" in South Africa, with "the highest rate of economic crime in the world over the last two years", according to PricewaterhouseCoopers' biennial Global Economic Crime Survey, which was released on 1 March 2016.

The survey revealed that the most prevalent crime was "asset misappropriation", reported by 68 percent of the 232 organisations canvassed. "Procurement fraud" was reported by 41 percent, and "bribery and corruption" by 37 percent. It also found that the organisations' detection and response plans are not keeping pace with the danger.

As much as we applaud the anti-corruption stance of Pravin Gordhan, our brave minister of finance, we seem to be running up an escalator that is quickly moving down, a modern version of Sisyphus.

The harsh reality is that corruption has seeped into many crevices of our society, not least into all three spheres of government. It seems that the top layers of government have signalled that looting and cronyism are okay, especially if it can be given a veneer of legitimacy in the form of "black empowerment".

While there is no doubt that the need for black advancement enjoys broad recognition and support in the country, there are also serious concerns about the way BEE has created a new business class. Opportunists and tenderpreneurs have abused government procurement processes to feed fat pockets.

The ANC has generally considered black business to be part of the "motive forces of the revolution", on the grounds that they have much to gain from the overthrow of the apartheid economy. It is, however, increasingly apparent that some elements have instead become the junior partners of white capital, learning at the table of those with long experience of manipulation and milking the public purse. This both slows down economic transition and reinforces the old system.

Prof Ben Turok

"The current turmoil in the economy and in private and public sector governance has brought into question the essential character of the democratic transition of 1994.

The current turmoil in the economy and in private and public sector governance has brought into question the essential character of the democratic transition of 1994. Several articles in this issue examine what Alan Hirsch has called "compromises and mistakes" in economic policy over two decades. Weaknesses are explored honestly and alternatives set out. This debate is very welcome and should assist us to address the problems and set a new course.

At the same time, we should not seek to cast blame on past leaders who indeed managed to bring South Africa towards democracy and peace. Even if they failed to craft an economic programme that could have led to better outcomes, critics must ask what they themselves would have brought out of CODESA under the conditions of those times. Let the economic debate continue, but in a positive spirit, seeking real change. After all, if we do not succeed in changing the fundamentals of our economic legacy, as well as the terrible distortions that have inserted themselves within that legacy, South Africa will become "junk" – not only in the appraisal of the rating agencies, but in reality as well. NA

THE SUPREME COURT OF THE REPUBLIC

EXTRACTS FROM THE CONCOURT JUDGMENT ON NKANDLA

As these extracts show, the Constitutional Court's fifty-page judgment sets out, in profound and unambiguous language, the values of South Africa's constitutional democracy; the constitutional obligations of the president, the national assembly and the institutions of state; and the principles of "rule of law" and "separation of powers" to curb the abuse of state power. The implications for the future are enormous.

THE ORDER

1. This Court has exclusive jurisdiction to hear the application by the Economic Freedom Fighters [EFF].
2. The Democratic Alliance's application for direct access is granted.
3. The remedial action taken by the Public Protector against President Jacob Gedleyihlekisa Zuma in terms of section 182(1)(c) of the Constitution is binding.
4. The failure by the President to comply with the remedial action taken against him, by the Public Protector in her report of 19 March 2014, is inconsistent with section 83(b) of the Constitution read with sections 181(3) and 182(1)(c) of the Constitution and is invalid.
5. The National Treasury must determine the reasonable costs of those measures implemented by the Department of Public Works at the President's Nkandla homestead that do not relate to security, namely the visitors' centre, the amphitheatre, the cattle kraal, the chicken run and the swimming pool only.

"One of the crucial elements of our constitutional vision is to make a decisive break from the unchecked abuse of State power and resources that was virtually institutionalised during the apartheid era.

6. The National Treasury must determine a reasonable percentage of the costs of those measures which ought to be paid personally by the President.
7. The National Treasury must report back to this Court on the outcome of its determination within 60 days of the date of this order.
8. The President must personally pay the amount determined by the National Treasury in terms of paragraphs 5 and 6 above within 45 days of this Court's signification of its approval of the report.
9. The President must reprimand the Ministers involved pursuant to paragraph 11.1.3 of the Public Protector's remedial action.
10. The resolution passed by the National Assembly absolving the President from compliance with the remedial action taken by the Public Protector in terms of section 182(1)(c) of the Constitution is inconsistent with sections 42(3), 55(2)(a) and (b) and 181(3) of the Constitution, is invalid and is set aside.
11. The President, the Minister of Police and the National Assembly must pay costs of the applications including the costs of two counsel.

INTRODUCTION

[1] One of the crucial elements of our constitutional vision is to make a decisive break from the unchecked abuse of State power and resources

Photo credit: Werner Beukes

that was virtually institutionalised during the apartheid era. To achieve this goal, we adopted accountability, the rule of law and the supremacy of the Constitution as values of our constitutional democracy. For this reason, public office-bearers ignore their constitutional obligations at their peril. This is so because constitutionalism, accountability and the rule of law constitute the sharp and mighty sword that stands ready to chop the ugly head of impunity off its stiffened neck. It is against this backdrop that the following remarks must be understood:

> Certain values in the Constitution have been designated as foundational to our democracy. This in turn means that as pillar-stones of this democracy, they must be observed scrupulously. If these values are not observed and their precepts not carried out conscientiously, we have a recipe for a constitutional crisis of great magnitude. In a State predicated on a desire to maintain the rule of law, it is imperative that one and all should be driven by a moral obligation to ensure the continued survival of our democracy. ([2008] ZACC 8)

And the role of these foundational values in helping to strengthen and sustain our constitutional democracy sits at the heart of this application.

THE PUBLIC PROTECTOR'S FINDINGS

[2] In terms of her constitutional powers, the Public Protector investigated allegations of improper conduct or irregular expenditure relating to the security upgrades at the Nkandla private residence of the President of the Republic. She concluded that the President failed to act in line with certain of his constitutional and ethical obligations by knowingly deriving undue benefit from the irregular deployment of State resources …

[3] The Public Protector's report [*Secure in Comfort*, Report No 25 of 2013/14] was submitted not only to the President, but also to the National Assembly presumably to facilitate compliance with the remedial action in line with its constitutional obligations to hold the President accountable. For well over one year, neither the President nor the National Assembly did what they were required to do in terms of the remedial action.

[4c,d] This Court must declare that the President failed to fulfil his constitutional obligations … and the National Assembly to fulfil its constitutional obligations.

[6] The Public Protector concluded that several improvements were non-security features. Since the State was in this instance under an obligation only to provide security for the President at his private residence, any installation that has nothing to do with the President's security amounts to undue benefit or unlawful enrichment to him and his family and must therefore be paid for by him. »

[7] In reasoning her way to the findings, the Public Protector said that the President acted in breach of his constitutional obligations in terms of section 96(1), (2)(b) and (c) of the Constitution which provides: "Members of the Cabinet and Deputy Ministers must act in accordance with a code of ethics prescribed by national legislation" ... She concluded that the President violated the provisions of the Executive Members' Ethics Act and the Executive Ethics Code ...

[12] For its part, the National Assembly set up two Ad Hoc Committees, comprising its members, to examine the Public Protector's report as well as other reports including the one compiled, also at its instance, by the Minister of Police. After endorsing the report by the Minister exonerating the President from liability and a report to the same effect by its last Ad Hoc Committee, the National Assembly resolved to absolve the President of all liability. Consequently, the President did not comply with the remedial action taken by the Public Protector.

CONSTITUTIONAL OBLIGATIONS

The President

[26] Section 83 [of the Constitution] does impose certain obligations on the President in particular ... An obligation is expressly imposed on the President to uphold, defend and respect the Constitution as the law that is above all other laws in the Republic. As the Head of State and the Head of the national Executive, the President is uniquely positioned, empowered and resourced to do much more than what other public office-bearers can do. It is, no doubt, for this reason that section 83(b) of the Constitution singles him out to uphold, defend and respect the Constitution. Also, to unite the nation, obviously with particular regard to the painful divisions of the past. This requires the President to do all he can to ensure that our constitutional democracy thrives. He must provide support to all institutions or measures designed to strengthen our constitutional democracy. More directly, he is to ensure that the Constitution is known, treated and related to, as the supreme law of the Republic. It thus ill-behoves him to act in any manner inconsistent with what the Constitution requires him to do under all circumstances.

[20, 21, 83] The President is the Head of State and Head of the national Executive. His is the highest office in the land. He is the first citizen of this country and occupies a position indispensable for the effective governance of our democratic country. Only upon him has the constitutional obligation to uphold, defend and respect the Constitution as the supreme law of the Republic been expressly imposed. The promotion of national unity and reconciliation falls squarely on his shoulders. As does the maintenance of orderliness, peace, stability and devotion to the well-being of the Republic and all of its people. Whoever and whatever poses a threat to our sovereignty, peace and prosperity he must fight. To him is the executive authority of the entire Republic primarily entrusted. He initiates and gives the final stamp of approval to all national legislation. And almost all the key role players in the realisation of our constitutional vision and the aspirations of all our people are appointed and may ultimately be removed by him.

Unsurprisingly, the nation pins its hopes on him to steer the country in the right direction and accelerate our journey towards a peaceful, just and prosperous destination, that all other progress-driven nations strive towards on a daily basis. He is a constitutional being by design, a national pathfinder, the quintessential commander-in-chief of State affairs and the personification of this nation's constitutional project ... He is after all, the image of South Africa ... He might have been following wrong legal advice and therefore acting in good faith. But that does not detract from the illegality of his conduct regard being had to its inconsistency with his constitutional obligations.

The National Assembly

[22] Similarly, the National Assembly, and by extension Parliament, is the embodiment of the centuries-old dreams and legitimate aspirations of all our people. It is the voice of all South Africans, especially the poor, the voiceless and the least-remembered. It is the watchdog of State resources, the enforcer of fiscal discipline and cost-effectiveness for the common good of all our people. It also bears the responsibility to play an oversight role over the Executive and State organs and ensure that constitutional and statutory obligations are properly executed. For this reason, it fulfils a pre-eminently unique role of holding the Executive accountable for the fulfilment of the promises made to the populace through the State of the Nation Address, budget speeches, policies, legislation and the Constitution, duly undergirded by the affirmation or oath of office constitutionally administered to the Executive before assumption of office. Parliament also passes legislation with due regard to the needs and concerns of the broader South African public. The willingness and obligation to do so is reinforced by each member's equally irreversible public declaration of allegiance to the Republic, obedience, respect and vindication of the Constitution and all law of the Republic, to the best of her abilities. In sum, Parliament is the mouthpiece, the eyes and the service-delivery-ensuring machinery of the people. No doubt, it is an irreplaceable feature of good governance in South Africa.

The Public Protector

[49, 35, 53] The office of the Public Protector was created to "strengthen constitutional democracy in the Republic". To achieve this crucial objective, it is required to be independent and subject only to the Constitution and the law. It is demanded of it, as is the case with other sister institutions, to be impartial and to exercise the powers and functions vested in it without fear, favour or prejudice … The Public Protector acted, not against the Executive or State organs in general, but against the President himself … Hers are indeed very wide powers that leave no lever of government power above scrutiny, coincidental "embarrassment" and censure

[73, 54] The Public Protector's remedial action might at times have a binding effect. When remedial action is binding, compliance is not optional, whatever reservations the affected party might have about its fairness, appropriateness or lawfulness … In the execution of her investigative, reporting or remedial powers, she is not to be inhibited, undermined or sabotaged.

The Constitutional Court

[15] The exclusive jurisdiction of this Court is governed by Section 167(4)(e) of the Constitution which says: "Only the Constitutional Court may decide that Parliament or the President has failed to fulfil a constitutional obligation."

[45] This Court, as the highest court in the land and the ultimate guardian of the Constitution and its values, has exclusive jurisdiction also in so far as it relates to the National Assembly. The EFF has thus met the requirements for this Court to exercise its exclusive jurisdiction in the application against both the President and the National Assembly.

THE RULE OF LAW

[54] Our constitutional democracy can only be truly strengthened when: there is zero-tolerance for the culture of impunity; the prospects of good governance are duly enhanced by enforced accountability; the observance of the rule of law and respect for every aspect of our Constitution as the supreme law of the Republic are real.

Separation of Powers

[90] The Executive led by the President and Parliament bear very important responsibilities and each play a crucial role in the affairs of our country. They deserve the space to discharge their constitutional obligations unimpeded by the Judiciary, save where the Constitution otherwise permits. This accords with the dictates of Constitutional Principle VI, which is one of the principles that guided our Constitution drafting process in these terms:

> There shall be a separation of powers between the legislature, the executive and judiciary, with appropriate checks and balances to ensure accountability, responsiveness and openness.

[91] And this was elaborated on in the *Certification* case as follows:

> The principle of separation of powers, on the one hand, recognises the functional independence of branches of government. On the other hand, the principle of checks and balances focuses on the desirability of ensuring that the constitutional order, as a totality, prevents the branches of government from usurping power from one another. In this sense it anticipates the necessary or unavoidable intrusion of one branch on the terrain of another. No constitutional scheme can reflect a complete separation of powers: the scheme is always one of partial separation.

[92] This court noted [in the *Doctors for Life* judgment]:

> Courts must be conscious of the vital limits on judicial authority and the Constitution's design to leave certain matters to other branches of government. They too must observe the constitutional limits of their authority. This means that the judiciary should not interfere in the processes of other branches of government unless to do so is mandated by the Constitution.
>
> But under our constitutional democracy, the Constitution is the supreme law. It is binding on all branches of government and no less on Parliament … Parliament "must act in accordance with, and within the limits of, the Constitution", and the supremacy of the Constitution requires that "the obligations imposed by it must be fulfilled". Courts are required by the Constitution "to ensure that all branches of government act within the law" and fulfil their constitutional obligations. This Court "has been given the responsibility of being the ultimate guardian of the Constitution and its values". Section 167(4)(e), in particular, entrusts this Court with the power to ensure that Parliament fulfils its constitutional obligations … It would therefore require clear language of the Constitution to deprive this Court of its jurisdiction to enforce the Constitution.

[97] The National Assembly was duty-bound to hold the President accountable by facilitating and ensuring compliance with the decision of the Public Protector … But, there was everything wrong with the National Assembly stepping into the shoes of the Public Protector, by passing a resolution that purported effectively to nullify the findings made and remedial action taken by the Public Protector and replacing them with its own findings and "remedial action". This, the rule of law is dead against. NA

HOW COMPROMISES AND MISTAKES HOBBLED SOUTH AFRICA'S ECONOMY

By **Alan Hirsch**

The author is professor and director of the Graduate School of Development Policy, University of Cape Town, and a former chief economist to the Presidency

The time has come to seriously question and assess the policy choices made at the beginning of South Africa's democracy.[1]

Addressing the Oxford Union recently, Julius Malema, leader of South Africa's opposition party, the Economic Freedom Fighters, did something few South Africans have dared: he challenged Nelson Mandela's post-apartheid legacy.

Malema accused Mandela of "turning against himself" in abandoning elements of the Freedom Charter during the democratic transition in the early 1990s. The Charter was drawn up by a coalition led by the African National Congress (ANC) in the 1950s and is still viewed as the blueprint for an equal, non-racial and democratic society. Mandela, he noted, was hosted by a rich white man after his release, and attended the club meetings of those white men who owned the South African economy.

Malema touched a nerve. The ANC's promised economic transformation has been disappointing in several ways. Poverty hasn't reduced quickly enough, inequality remains at world-beating levels, and the pace of growth has, on average, been pedestrian. It is currently glacial. It is quite likely that decisions made during the transition, before and after 1994, contributed to this outcome.

Prof. Alan Hirsch

Source: http://www.humanities.uct.ac.za/news

> **It is quite likely that decisions made during the transition, before and after 1994, contributed to this outcome.**

POOR PERFORMANCE

In a recent paper, colleagues and I showed that growth in South Africa since 1990 has been very slow compared with other middle-income developing countries such as Malaysia, Turkey and Brazil.[2] In per capita terms, South Africa is clearly the poorest performer. The country has performed poorly on other measures too: exports over this period have been the weakest, investment levels have been the lowest, domestic levels of competition are very weak, and performance on innovation indices is steadily declining.

More importantly, poverty remains persistently and unconscionably high at over 40 percent. This is despite the fact that the reduction of poverty accelerated in the 2000s with faster growth and the extension of social grants. Inequality remains extremely high in an era when even countries in the notoriously unequal region of Latin America have shown that inequality can be reduced. Compared with similar middle-income countries, the gap between the richest 20 percent and the rest is considerably greater in South Africa. Of the 50 names in the Forbes “Africa’s 50 richest” list, 16 are South Africans, and only two of the South Africans are black. Three of the four richest Africans are white South Africans. Economic transformation is slow indeed.

> **“Had the ANC not been constrained by concerns for economic stability and constantly looking over its shoulder, what might have been different?**

COMPROMISES AND MISTAKES

It is certainly possible to trace some of the country’s relatively poor performance since 1994 to compromises of that era. Established business mounted a concerted campaign to maintain the existing structures of the economy. This was a key item on the agenda of a series of meetings with ANC and other opposition leaders in the 1980s and early 1990s. This demonstrated short-termist defensiveness and a lack of imagination about South Africa’s future.

It is important to remember that the era was characterised by the poor economic performance of most other African countries. And Latin America was absorbed in a seemingly unending series of debt crises. In this context, reassuring investors – on whom the country was believed to depend – was a high priority for the ANC and the new government.

Attempts to build a mechanism to drive economic transformation failed as the level of trust between business, labour and government deteriorated through the late 1990s and early 2000s.

Had the ANC not been constrained by concerns for economic stability and constantly looking over its shoulder, what might have been different? Some examples:

- assets such as wealth and land could have been more radically redistributed
- the Reserve Bank could have been given a full-employment mandate (like the Fed in the US)
- competition policy could have attacked oligopolistic structures, not only anti-competitive behaviour
- a more vigorous industrial policy might have been introduced
- small businesses could have had more committed support
- the apartheid structure of cities could have been more urgently addressed.

Source: http://www.humanities.uct.ac.za/news

South Africa’s capacity to transform the economy was also undermined by accidents of poor thinking, or the by-products of political horse-trading. Examples of these include:

- the excessively radical liberalisation of agricultural markets and structures
- some very poorly conceived reforms in basic education in the first two post-1994 governments
- the very poor design of privatisation of some state-owned enterprises
- the constrained and complex designs for the liberalisation of some key network industries, especially in the ICT and energy sectors.

WHAT COULD BE DONE

It’s an interesting thought experiment to separate the missed opportunities and policy accidents into two categories: those that could have been avoided, and those that were difficult to avoid in the political climate of a transition through negotiation.

This separation would not necessarily indicate which mistakes are reversible today. But reviewing compromises and mistakes made during the transition would be a very fruitful exercise, if accompanied by strategic thinking about what to do about these policies today.

Strategic thinking means thinking about what political bargains are possible, and how to build an environment of trust that would encourage short-term sacrifices for long-term gain.

NOTES

1. This article first appeared online on theconversation.com, 23 December 2015.
2. See the summary on page 20 in this publication. Bhorat, H., A. Cassim and A. Hirsch. 2014. Policy co-ordination and growth traps in a middle-income country setting: The case of South Africa, WIDER Working Paper 155/2014. Helsinki: UNU-WIDER. NA

MOVING FORWARD

FIXING PAST COMPROMISES AND MISTAKES

By ***Luke Jordan***

Luke Jordan

The author is an independent economic development specialist

Luke Jordan develops Hirsch's article towards an agenda for change.

Alan Hirsch's article is a breath of fresh air. Too much of the debate about our economy focuses myopically on the last few years, or assumes ill faith on either side of the ideological divide. Hirsch rightly looks back beyond 2008 to the years around 1994 and urges us to consider as good-faith errors the actions of policymakers facing complex and intractable problems and constraints.

It must be noted, however, that many of the mistakes Hirsch notes were perpetuated long into the 2000s. That was not for lack of independent advice to correct them. The international panel advising the Presidency's ASGISA (Accelerated and Shared Growth Initiative–South Africa) noted many of these issues in 2008, including a diagnosis of the errors in monetary and fiscal policy that have led directly to today's vulnerability. The refusal of Treasury and the Reserve Bank to consider the ASGISA suggestions long after the political constraints of the 1990s had passed must be borne in mind. That large sections of government policymaking remained ideologically committed to the decisions of the 1990s into the late 2000s – and that it has taken until now for an article as reflective as Hirsch's to appear – indicate deep problems in our state's ability to learn, which may be more serious than any specific errors.

Along with the extended period of commitment to the mistakes of the 1990s, the other important piece of context is the performance of the economy under apartheid. Whatever the myths sometimes peddled by a minority, that performance was disastrous. GDP per capita did not grow at all from 1969 to 1994 – for all of the 1980s, it was declining. At no point in the last twenty years, including the last five years, has the economy performed as badly as it did under apartheid.

That does not, however, mean we are not in a crisis. As Hirsch notes, on most metrics we have underperformed, including on the most important of all – the transformation of the economy to meet the aspirations and harness the capacity of our people. To respond to that crisis, Hirsch's division between "compromises" and "mistakes" is most useful.

It needs, however, two further refinements. First, between mistakes that can be fixed with levels of state capacity as they are now and those where any policy change will yield few, if any, positive results in the absence of deeper improvements in capacity. Second, between compromises that could be revised in the short term and those requiring a much larger shift in the political landscape to reopen. Those refinements then lead to a strategy for sequenced reform:

1. reverse the mistakes that do not require deep changes in state capacity
2. start debate, pressure and negotiation around the compromises that are feasible to be reopened now or in the near future

> **At no point in the last twenty years, including the last five years, has the economy performed as badly as it did under apartheid.**

3. in parallel to the above, conduct a far more coherent and sustained programme for building state capacity than we have had previously
4. finally, work towards shifting the political ground to enable a reopening of the remaining compromises, while researching options now, so as to move quickly when the time comes.

Needless to say, each of these is interlinked, and detailing the steps required for each, let alone the links between them, would require a lengthier treatment than is possible here. For the moment, then, a brief sketch of possible steps under each heading follows.

MISTAKES REVERSIBLE IN THE NEAR TERM

1. *Housing*

A fundamental tenet of apartheid planning was the exclusion of black people from white cities. This was explicit in coercive legislation, but also implicit in locking black wage-earners out of the mortgage market. Post-1994, the laws were dismantled but the implicit gap was not made good, notwithstanding the occasional debate about "red lining". Today we remain almost alone in the absence of a policy instrument – such as credit guarantees or a housing fund – to address market failures in credit allocation. Millions of people can obtain high-interest unsecured credit but cannot borrow to invest in their own homes. Fixing this could catalyse home building and create, on a conservative estimate, a million jobs at minimal fiscal cost, if structured appropriately. There are clearly risks involved, but a wealth of global experience can be drawn upon to avoid and mitigate them.

2. *Tax structure*

Continually cutting personal income taxes for the last twenty years was an unforced mistake in an economy with excess consumption and chronically weak investment. Reversing those reductions, along with higher dividend taxes and other changes, could pay for expanding the minor savings incentives already introduced and for steep cuts in effective taxes on corporate investment. That would, at worst, align tax policy with the rebalancing of our economy, and at best, stimulate a boom in corporate investment without necessarily increasing or decreasing aggregate tax levels. It would be the reverse of the clear mistake post-2009 of trying to stimulate a consumption-heavy economy with consumption-biased fiscal measures.

3. *Procurement*

The Public Financial Management Act, the Municipal Financial Management Act, and the regulations related to them manage to achieve the impressive feat of halting the honest and doing little to constrain the dishonest. Many of their provisions are poorly considered and have not been changed for many years, despite ever-rising experience of their deficiencies. It is these Acts that are largely responsible for the long delays in translating theoretical public investment into actual stimulus; and the unpredictability they generate nullifies the prospect of fostering business confidence from such investment. They must be significantly revised as soon as possible. If they are, along with the reforms above, public investment could join household investment and corporate investment to stimulate the economy at minimal change to our overall fiscal position.

4. *Higher education, skills and R&D*

These present a cluster of problems, and addressing them decisively belongs in the third category (that of state capacity). Three steps, though, seem achievable in the short term: deep reform of the structure of tertiary education funding for low-income students; a doubling of public funds for research and development (R&D), also under restructured legislation and institutional governance; and, in skills, a change from certifying institutions on the basis of inputs to ensuring easy access to information on outcomes, such as a publicly available database of long-term earnings by graduates of all technical colleges, public or private.

5. *Regulating network infrastructure*

As Hirsch notes, our regulatory structures for information and communications technology (ICT) and energy have shown themselves unfit for purpose. Fixing this precedes the more complex debate about privatisation – our mobile networks are all private, but the weakness of the Independent Communications Authority of South Africa (ICASA) has resulted in a closed oligopoly with some of the highest tariffs in the world. The national energy regulator, NERSA, has somehow managed to both deny Eskom the tariffs to responsibly fund new capacity and protect it from competition, most of all through its continued failure to enable distributed » renewables. These agencies need greater capacity, which will take time, but in the interim we can reverse mistakes in their mandates, forms of accountability and monitoring, and their governance structures.

COMPROMISES FEASIBLE IN THE NEAR FUTURE

1. *Competition*

The unfolding merger of AB-InBev and South African Breweries (SAB) has dramatically illustrated how weak our competition regime is. While US authorities required the merged entity to make large divestments to prevent it having an overly large market share, ours, having been unable to touch SAB's monopoly, merely sought a local listing of that monopoly's new owner. To build a modern open economy, we need a much more aggressive competition policy with an explicit mandate to break apart oligopolies. As Hirsch notes, preventing that was a priority of white capital in the transition, and perhaps its greatest success.

Yet the growing concern, here and abroad, with the power of monopolies and cartels, as well as the weakening of their intellectual support in the academy, may be shifting the balance of power. That is already evident in the US and Europe, where anti-trust regulators have become much more assertive. Here at home, a public campaign to revamp our competition law would unite the rhetoric of both the right, with its commitment to opportunity and small business, and the left, with its attacks on concentrations of capital. There are not many topics on which the IMF and EFF are in agreement, but this might just be one.

2. *Monetary policy*

At a minimum, the South African Reserve Bank (SARB)'s mandate should be changed to one similar to the Federal Reserve, with a joint inflation and employment mandate. Both research and experience in the last decade has comprehensively dismantled the case for strict inflation targeting, so the grounds are laid for reopening this compromise. The SARB itself seems determined to out-orthodox a dead orthodoxy, but cracks are appearing. Most remarkably, the decision in January to raise the repo rate by 50 basis points could not even muster a majority of the Monetary Policy Committee.[2] At some point, perhaps soon, the ability of SARB to point the finger at others for the capital account crisis it has created will diminish. In the aftermath of a sustained bout of capital flight, against which SARB's refusal to build reserves and Treasury's refusal to tax portfolio inflows has left us defenceless, the "fear factor" preventing a change in mandate might dissipate. Once the herd has bolted, it may be easier to convince people to fix the fences. Such a circumstance will be far from welcome, but should at least be put to use.

> **"The SARB itself seems determined to out-orthodox a dead orthodoxy, but cracks are appearing.**

MISTAKES REVERSIBLE, BUT ONLY WITH GREATER CAPACITY

1. *Basic education*

Any and all of the above will be only a short-term palliative if we do not fix our education system. To do so, however, it must be understood that reforming public education is perhaps the single hardest task in public life. This is not about resources or about "smarts". Mark Zuckerberg poured R1.5 billion into an attempt to fix the schools in a single city in the US and achieved little. In South Africa, simply reversing the curriculum mistakes of the 1990s will not (and has not) taken us far. We must deliver textbooks and build better facilities in schools, but that also will not be enough. We need to remove teachers who cannot pass their own tests, and treat all other teachers as professionals – the most important professionals in our society – with higher pay and fundamentally overhauled training. Still, that will not be enough. Perhaps the most depressing indicator of our long-term future is the simplicity and shallowness of our national debate on education, the one that we must change as soon as possible or risk yet more lost generations.

2. *Agriculture*

Hirsch rightly notes that the excessive liberalisation of agricultural markets post-1994 was a mistake. Reversing this, however, requires the rebuilding of agricultural extension services, which spread knowledge, technology, inputs and access to markets throughout the agricultural economy. The deployment of such services is a classic "wicked problem", requiring highly trained extension officers who can transmit technical ideas but not override local knowledge, and who have significant autonomy but are linked in networks of monitoring, learning and continuous improvement. The contrast to our experience – of highly paid "consultants" who produce "business plans" that dismiss local knowledge and who then disappear – could not be starker. We cannot reverse the liberalisation mistake without a thorough, thoughtful overhaul and expansion of extension services, drawing on experience elsewhere, especially that of Latin America. This is a requirement, too, for serious and substantial land reform – indeed, the absence of such services has been the principal cause of the many failures of even the limited reform conducted to date.

3. *Industrial policy*

It is now well established that effective industrial policy is less a question of resources and more the capacity to learn – to attempt new policies or programmes, learn from them, and adjust them in a continual process. This is akin to the processes of continual improvement that are now necessary to compete in any global industry, and must be distinguished from frequent changes in policy direction, or policy incoherence. It requires extensive cross-silo coordination within government and outside it, with infrastructure departments, environmental regulators, business associations, labour unions and others. Reinvigorating industrial policy requires not simply fiscal resources but a much more concerted effort to build the capacities to coordinate, learn and continuously improve. Rather than build those capacities, we have had a proliferation of empty cabinet committees, lurching policy documents, and "learning" by interminable debate instead of learning by doing. There are signs this may be changing, with green shoots appearing in initiatives from transport equipment to coping with the mining crisis, but we need to do more – while also realising that unavoidable automation means these will never produce the jobs they once did.

4. *Restructuring our cities*

Fixing the apartheid structure of our cities means dealing with a tangle of issues that include credit-market access, planning, policing and transport. This knot cannot be cut with policy statements. But forcing municipal officials to fill out spreadsheets and attend courses is not capacity building. What is needed is more emphasis on the nuts and bolts of governing, from the art of managing difficult meetings to the rhythms and forms of monitoring and problem solving. Alongside that, we need a network of locally affiliated mini-thinktanks and research units, like those spread across the US and China, to find, evaluate and disseminate innovations on the hardest topics in municipal management. Again, the devil is in the detail: occasional conferences informed by outside and theoretical analyses will not achieve much. What must change, above all, is the cultural attitude prevalent in Pretoria that local government jobs are "easy" or "basic", and that those doing them are incompetent or corrupt, to be enchained rather than enabled.

> **"Public finance regulations manage to achieve the impressive feat of halting the honest and doing little to constrain the dishonest.**

COMPROMISES TO REOPEN ON NEW POLITICAL GROUND

1. *Labour relations and corporate governance*

As Hirsch notes, the levels of trust in our economy deteriorated from a low base throughout the 1990s. Unless this is resolved, we are unlikely to compete in global markets, no matter how far the rand falls. Those markets – in agriculture, industry or services alike – today require quality levels that are possible only with advanced techniques in production. Those techniques are likewise the only route to the productivity growth we need to expand the constraints within which we bargain. But those techniques require trust between managers and workers: lean production and continuous improvement are impossible without it.

In this light, what is proposed as "structural reform" – labour flexibility and an assault on unions on the right, higher minimum wages and employee share ownership on the left – are at best beside the point and at worst harmful, and what is required is a grand bargain that retains institutional coherence and starts to restore trust. One such might be the institution of supervisory boards with labour representatives alongside incentives or mandates for much higher levels of employee ownership, in exchange for some firm-level flexibility in wages and tighter regulations for strike ballots. The right's continued hatred and demonisation of unions and the left's attachment to a dead Marxist-Leninism make this unlikely without a significant change in the political landscape. Even when it does become possible, many difficult questions will need to be resolved, from the structure of such boards and the incentives for employee share ownership to ways to enable flexibility without creating a backdoor to yet greater inequality. There are, fortunately, a growing number of precedents to draw upon. A conscious programme of experimenting with them might be the most useful role for the special economic zones (SEZs) to play.

2. *Land reform*

Aside from stronger extension services, the obstacles to more aggressive land» reform are neither constitutional nor economic, but political. Constitutionally, a progressive and steeply rising land value tax could achieve *de facto* land reform, with the useful feature of encouraging unimproved and land held for leisure to be redistributed first. "Economies of scale" in agriculture, if they exist at all (and most evidence suggests that, for most crops, they do not), come from organisational form not ownership. Innovative forms of cooperatives and management companies can and do outperform single-owner farms. The real barriers are political, including a cynical lobby group's scare-mongering about "Zimbabwe", a partisan press's inability or unwillingness to do independent research on the issue, and the governing party's increasing reliance on a rural vote and hence regressive forms of communal landownership. It does not help that proponents of reforms insist on direct state involvement – via the *de jure* means of expropriation rather than *de facto* means of taxation – while not engaging at sufficient depth on the state's capacity to support the recipients of redistribution. Regardless, the resonance of the land question, the risks involved, and the paramount need to build functioning extension services first, means that it likely requires a structural change in our politics to bring about.

3. *Wealth tax and a guaranteed inheritance*

When, even today, there is serious debate in the US about reparations for slavery, it is remarkable that such a debate has not occurred in South Africa for apartheid. Regardless of the moral case, the economic rationale for a drastic reduction in inequality is now well established. Some of the steps above would help, but not enough. One solution would be a wealth tax that funds a form of "guaranteed inheritance", a grant to every child on reaching the age of 18. Such a scheme has been advocated from Thomas Paine through Anthony Atkinson. It would address multiple forms of inequality at once, redressing the past while limiting the accumulation of within-race wealth inequality in the future, and could once again be accomplished through the state's authority to tax. Nevertheless, it would require significant political consensus and support to have a chance of passing, let alone have enough teeth to combat inevitable leakage. It will likely have to wait for a crisis yet deeper than any we have faced so far.

> **"We have to address the deeper issues in state learning that allowed the last twenty years to pass without detecting and correcting them.**

MOVING FORWARD

This is a daunting agenda, which makes sequencing all the more important. The distinction between "mistake" and "compromise" provides a means to an agenda, one that might be all the more practical and effective if focused on redressing the imbalances in our economy. And then a strategy becomes clear, at least in outline.

It starts with creative and pragmatic ways to stimulate investment by households, businesses and the public sector. The momentum generated by investment could then be harnessed to reopen bad compromises on competition and monetary policy. Alongside that, state capacity must be built urgently and systematically in agricultural extension services, new industrial policy, and urban management – and, above all else, in basic education. Then, if and when the political ground shifts, we may be in a position to revisit and reopen deeper compromises on corporate ownership, land reform and wealth and opportunity.

Fortunately, there may be the beginnings of a plan. Not all elements of it are equal, however. State capacity matters most. Without a much more capable state, one conceived and debated very differently from today's, all the other reforms will offer at best a short-term palliative. A more capable state, which continuously learns to fix the continually new coordination problems that plague a modern economy, may loosen a range of structural constraints – most importantly, low productivity growth and a malfunctioning education system.

Unfortunately, little in the world is changing in ways that afford South Africa the luxury of time. By the time another twenty years have passed, the crisis of employment, growth and inequality that is already swelling in most of the world is likely only to have worsened. As much as correcting our earlier existing mistakes, we have to address the deeper issues in state learning that allowed the last twenty years to pass without detecting and correcting them. Alongside the urgent steps to pull us out of our crisis, our most vital task must be to build a state that might cope with the unforgiving and uncertain decades ahead.[1] NA

NOTE

1 The SARB's 25-point hike in March was also supported by only 3 of 6 MPC members.

WHAT IS HOBBLING US?

A RESPONSE TO ALAN HIRSCH

By ***Philippe Burger***

Prof. Philippe Burger

The author is head of the department of economics at the University of the Free State

Tracking the "big five" structural issues to address in South Africa's post-apartheid economic woes.

Alan Hirsch discusses a question raised by Julius Malema: did compromises and policy mistakes of the Mandela era hobble the South African economy? To my mind, there are five structural issues that policy has not addressed adequately – under President Mandela and also under Presidents Mbeki and Zuma – and that contribute to persistent low economic growth, high unemployment, inequality and poverty. These relate to education, investment, productivity, apartheid's spatial distortions, and the weakness of the informal sector.

EDUCATION

Miles Corak (2013a and 2013b) has found a very strong correlation between inequality and intergenerational mobility. Countries where intergenerational mobility is low (meaning the kids of the rich are likely to be rich, while the kids of the poor are likely to be poor) are usually also countries where inequality is high. In contrast, countries where intergenerational mobility is high (meaning whether a parent is rich or poor does not have a bearing on whether their children are rich or poor) are usually also countries where inequality is low. Therefore, a good education system accessible by the poor reduces educational inequality, which in turn creates the foundation for reducing income inequality and increasing intergenerational mobility.

Access to education is important to reduce inequality and improve intergenerational mobility, but the *quality* of education is important for economic growth. Using international math and science test scores, Hanushek and Woessmann (2012) show that, when considering the effects of the quality and quantity (years of schooling) of education on economic growth, it is the former that makes the difference. Countries where learners acquire higher math and science skills are countries that grow faster. This is an important finding, given that South Africa performs dismally in such international comparisons, lagging behind almost all other countries, including many developing countries. Fixing the quality of education should thus be a priority in future.

> **The current policy dilemma is to stabilise the public sector's debt-to-GDP ratio while also increasing public investment to restore infrastructure.**

National accounts data show that government's stock of social (i.e. health and education) infrastructure as a percentage of GDP has been on a continuous decline over the last two decades. This is despite total (capital plus current) expenditure by government on education and health respectively equalling 6 percent and 4 percent of GDP. It is also important to distinguish between investment with direct and indirect returns. For example, electric power generation yields a direct return in the form of income from consumers who buy electricity. Social infrastructure yields an indirect return: if efficient, it allows beneficiaries to generate more future income, which, in turn, generates more future taxes. The additional taxes are the indirect return. Because it is quite difficult to measure, governments often underinvest in assets with indirect returns. In addition, governments often do not realise that, to actually yield the indirect returns, they need to ensure the social infrastructure is operated efficiently. Therefore, even though more needs to be invested in education, if the quality of education is not improved, the investment will not yield a return.

PUBLIC AND PRIVATE INVESTMENT

"Investment" is what is added to the country's fixed capital stock every year. Gross investment in South Africa averages about 17 percent, which is low compared to many emerging market countries. But to truly comprehend South Africa's failure to invest enough, one has to consider the changing levels of the country's fixed capital stock.

Between 1994 and 2007, the fixed capital stock (infrastructure) of the public sector (which includes central, provincial and local governments, as well as state-owned enterprises) fell from 130 percent of GDP to just 90 percent. Since 2007, it improved slightly to 100 percent due to the construction of the Medupi and Kusile power stations – however, their full effect on the economy is not yet felt, as they are still not fully operational.

The private sector's capital stock also fell, from 170 percent to less than 150 percent in 2014. Thus, investment by both the public and private sectors has been too low to maintain the level of the country's fixed capital stock relative to GDP. The consequences of this low investment include power outages and other service delivery problems, and ultimately, the low economic growth that keeps unemployment persistently high.

"Reducing barriers into the informal sector in places where economic activity is absent might represent a starting point to improve employment.

Between the mid-1990s and the advent of the financial crisis in 2008, the reduction in the public-debt-to-GDP ratio explains up to half of the reduction in the public sector's fixed-capital-stock-to-GDP ratio (Burger, Siebrits and Calitz 2015). With the 1996 Growth, Employment, and Redistribution (GEAR) policy, South Africa followed international norms and reduced its public debt burden, but it did so by allowing its public sector capital stock to deteriorate. This policy mistake was committed during the first 15 years of democracy.

Even though the public sector's fixed-capital-to-GDP ratio improved slightly over the last number years, government's debt burden increased by more. Again, as in the mid-1990s, the public sector finds itself with a debt burden of almost 60 percent of GDP (45 percent debt of government plus 13 percent debt of parastatals). However, this time there is no room to cut debt by allowing the fixed capital stock to deteriorate.

The current policy dilemma is to stabilise the public sector's debt-to-GDP ratio while also increasing public investment to restore infrastructure. The only way to do this is to cut current expenditure, of which the public sector salary bill is a very significant component. Given the ruling party's alliance with Cosatu, getting the buy-in from public sector unions in the interest of citizens will be economically crucial, but politically difficult.

PRODUCTIVITY

When considered over the entire 1980–2015 period, a 1 percent increase in productivity on average led to a 1 percent increase in real wages. During the 1990s, real wage growth somewhat outpaced productivity growth, but the gap was subsequently closed during the 2000s, when productivity growth outpaced real wage growth (Burger 2016).

The one-to-one relationship indicates that, over these 35 years, labour unions did not posses the power to cause real wages to increase faster than productivity. Labour unions nevertheless did prevent firms that wanted to improve their international competitiveness from reducing real wages in a sustainable manner relative to productivity. Although the business sector clamoured for such wage reductions, the fall in wages required to become competitive was, and is, simply too large for such a policy to be politically feasible. According to the National Development Plan (NDP)'s diagnostic document, wages in South Africa were up to five times those in

China and India, and three times those in Mexico and Malaysia.

From GEAR to the NDP, government policy emphasised the role of exports to spur growth. However, given that the level of real wages in South Africa relative to productivity compares unfavourably with other countries, South Africa needs to question the feasibility of an export-based growth strategy. An alternative approach would be to consider improving the competitiveness of domestic industries relative to imports, so that local production can replace imports and thereby spur economic and employment growth.

APARTHEID'S SPATIAL DISTORTIONS

By locating townships far from central business districts, the apartheid government significantly increased transport costs for millions of people. The poor still spend up to 30 percent of their income on transport. This increases the minimum salary people need to earn just to cover their basic costs, and therefore limits labour supply. High transport costs also make it expensive to search for work, thus effectively keeping people out of the labour market.

By building RDP houses in far-flung townships, the government's post-1994 housing projects re-enforced apartheid's spatial distortions. Recognising the problem, the NDP requires higher density housing closer to places of business, as well as the creation of cheaper public transport.

WEAKNESS OF THE INFORMAL SECTOR

Compared to peer countries, South Africa has a relatively small informal sector: only 17 percent of the employed are in the informal sector. This would not have been a problem if unemployment was low and the formal sector large, but that is not the case in South Africa. Depending on which definition of unemployment one uses, there are between two and three times as many people unemployed as there are people working in the informal sector. Why, after failing to find formal sector employment, do the unemployed not enter the informal sector? And even if they fail to find informal sector employment, why do they not become self-employed in the informal sector as people do in Kenya, Uganda, India, Turkey, Mexico and Brazil?

Photo: Chris Kirchoff, MediaClubSouthAfrica.com

> **"South Africa needs to question the feasibility of an export-based growth strategy.**

A study of Khayelitsha residents' views on the most significant barriers to self-employment might point to the answer (Cichello et al 2012): they listed crime, the risk of business failure, transport cost, as well as a lack of start-up capital.

In many countries, the main debate is about how to migrate small informal enterprises to the formal sector – but they do not have our high unemployment rates. So, although the migration of small informal enterprises to the formal sector is important in South Africa, reducing barriers into the informal sector in places where economic activity is absent might represent a starting point to improve employment.

CONCLUSION

While South Africa today is certainly better off than in 1994, compromises and mistakes from the Mandela and post-Mandela eras nevertheless have a bearing on the current economic condition. The National Development Plan recognises most of these problems. However, the World Bank's latest estimate is that the economy will need to grow by 7.2 percent from 2018 onwards if poverty is to be reduced in line with the NDP's targets. To unlock economic growth will require significant structural changes, some of which are discussed above, as well as a partnership with the private sector. It also requires that we move beyond planning and focus on effective and efficient implementation. NA

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__Alan Hirsch's__ article on South Africa's poor economic performance since 1994 draws on research condusted with __Haroon Bhorat__ and __Aalia Cassim__. The following is our summary report of their 2014 paper, "Policy coordination and growth traps in a middle-income country setting: The case of South Africa".[1]

SOUTH AFRICA'S GROWTH TRAPS

A SUMMARY OF BHORAT, CASSIM & HIRSCH (2014)

By ***Michael Smith***

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INTRODUCTION

South Africa is currently experiencing grave economic turmoil. The World Bank has cut the country's growth forecast for 2016 to 0.8 percent while the International Monetary Fund's estimate of 0.7 percent is a similarly depressing prediction. This does not bode well for an economy that has failed to realise the ideals of the liberation movement some 22 years into the post-apartheid era.

Current economic statistics paint a grim picture. As of 2014, 47 percent of South Africans remained below the poverty line (US$43 per month). Such poverty exists alongside high inequality, which has been increasing in South African society the post-apartheid era. The country's Gini-coefficient is 0.69, indicating that the local economy generates possibly the most unequal outcomes on the globe. It is now widely accepted that the nature of South Africa's growth path has caused this skewed welfare outcome. In the democratic era, a minority of well-educated and wealthy households have gained relative to the unskilled and uneducated poor majority. Indeed, South Africa's growth path seems to systematically favour the former over the latter as it rewards economic activity that reproduces patterns of inequality inherited from the past.

Haroon Bhorat, Aalia Cassim and Alan Hirsch, in their 2014 study "Policy co-ordination and growth traps in a middle-income country setting: The case of South Africa", attempt to explain South Africa's limp economic performance since 1994, while offering concrete policy solutions for the future. They argue that South Africa exhibits traits of a middle-income growth trap. These include "an over-dependence on natural resource-based foreign exchange for export revenues and short-term growth; a capital intensive path of industrialisation; a consumption- rather than investment-driven growth trajectory; reliance on state infrastructure for domestic growth, or simply a growth path built on sectors that are not employment intensive" (p. 4). The persistence of these leads to a low cycle of growth that many other middle-income countries have found it difficult to escape.

Some key points of the paper are summarised below. These should form the basis on which policymakers engage the urgent task of removing the structural barriers to realising an inclusive, pro-poor economic trajectory in South Africa.

THE STRUCTURE OF THE ECONOMY

Since 1994, South Africa's economic character has been defined by an eroding primary sector and an undiversified, uncompetitive and undynamic manufacturing sector. The country's post-apartheid growth path has been driven by its relatively sophisticated finance sector and

> **South Africa's growth path seems to systematically reward economic activity that reproduces patterns of inequality inherited from the past.**

consumer demand. Between 1994 and 2012, the financial sectors contribution to GDP was some 5 percentage points higher than manufacturing. In the same period, growth was negative for mining (-0.3 percent) and a low 2.2 percent in agriculture.

Ultimately, the ability to achieve an inclusive growth trajectory and raise the living standards of the majority is undermined by the weakness of mining, agriculture and, particularly, manufacturing.

These weaknesses are exacerbated by a relatively low fixed investment and savings rate: sitting at 20 percent, they are significantly lower than other emerging markets. Low investment rates persist despite relatively high real returns to capital (averaging around 15 percent between 1994 and 2008 and the same as China), suggesting that investment aversion is principally due to perceived political risks, structural impediments and low national savings rates. Though it is appropriate to characterise South Africa as a mixed economy, in which both the state and private sector leave significant footprints, investment growth has been driven by the private sector. Private investment has contributed between 65 and 75 percent of total investment while government and public enterprise expenditure has been fairly low since the transition.

Low savings rates have ensured that investment has been financed by running a significant current account deficit of nearly 6 percent. This deficit has been financed, moreover, through unstable and inconsistent portfolio investment. Portfolio investment has averaged close to double the portion of foreign direct investment (FDI) annually in the post-apartheid era. Dependence on such short- to medium-term capital inflows has perpetuated reliance on the resource sector and powerful, publically quoted oligopolies in the services sector; the market power of these companies produces the margins that portfolio investors seek.

GROWTH PATH AND EMPLOYMENT

The structure of the South African economy produces worrying outcomes in growth and employment. Since the transition, employment growth has been less responsive to changes in GDP: a 1 percent increase in GDP has resulted in a 0.69 percent increase in employment. Sectors such as agriculture, manufacturing and transport have indicated a lower capacity to create employment compared to retail, finance and business, and community services. Moreover, because growth has been concentrated in the latter, the economy is structurally biased towards skilled labour. Low-skilled workers, making up the large majority of the unemployed, are not accommodated by patterns of economic growth which reproduce inequality.

> **The country's ability to achieve an inclusive growth trajectory and raise the living standards of the majority is undermined by the weakness of mining, agriculture and, particularly, manufacturing.**

The nature of investment has contributed to the disparities between growth and employment. Between 1990 and 2012, capital investment into labour intensive sectors – such as clothing, electrical machinery and apparatus, textiles, footwear, wood and wood products, television, radio and communication equipment, and furniture – experienced annual decline. By contrast, sectors that experienced increasing annual capital investment within the period include medical and dental services, communication, civil engineering and construction, coal mining and motor vehicles. At the industry level, investment growth in manufacturing and light manufacturing was outweighed by annual growth in community services and finance and business services.

Bhorat et al found that capital-intensive industries attracted far more investment in the period in question. Citing Rodrick (2006), the authors claim that deepening capital results in increased demand for skilled workers, further contributing to the South African economy's structural bias towards the relatively well-off and educated minority. This dynamic is apparent in sectors such as construction, manufacturing, mining and electricity that have increased capital intensity at a rate greater than employment. In the manufacturing sector, annual capital formation was 3.15 percent in the period between 1990 and 2012, while employment growth was less than 1 percent. This points to the increasing mechanisation in sectors that have traditionally been more labour intensive as well the increased investment in heavy manufacturing.

By contrast, employment exceeded growth in capital in finance (6.36 compared to 2.05 percent), community services (3.15 compared to 2.44 percent) and wholesale and retail (3.28 compared to 2.74 percent). Sectors that yield the lowest levels of capital accumulation, such as agriculture, » increased employment by 1 percent annually. Agriculture has the potential to absorb skilled labour, yet it is in decline.

Since the transition, capital investment has not yielded high returns for employment. Sectors which have gained employment on the back of capital investment have either been in the public sector, reinforced the consumption-based growth trajectory of the economy (wholesale and retail trade), or indeed have been labour-outsourcing sectors. Most concerning, manufacturing, which has been the growth engine of many rapidly growing emerging markets, remains unable to convert capital expenditure into high levels of employment.

OBSTACLES TO TRANSFORMATION

It is clear that South African policymakers should prioritise initiatives that would release the economy from the dynamics of a middle-income growth trap. In particular, these initiatives must be targeted to redirect the economy away from a growth trajectory that reproduces inherited patterns of inequality. However, poor policy coordination and rent-seeking remain major obstacles to realising this urgent objective.

Policy coordination

Bhorat et al note that a lack of policy coordination has been a constant feature of the post-apartheid era. Indeed, three different and conflicting economic policy frameworks were by published by different parts of government just two years after the democratic transition: the Reconstruction and Development Plan (RDP) office in the Presidency produced the National Growth Path Framework; the Labour Department's Presidential Labour Marker Commission produced an approach towards a social plan; and the Treasury produced the influential and controversial Growth, Employment and Redistribution strategy (GEAR). From this contradictory and uncertain point of departure, coordination on economic matters deteriorated even further in the years that followed.

Lack of policy coordination has resulted in uneven policy outcomes. For example, the WTO-linked trade liberalisation programme advocated by GEAR forged ahead on the principle of reducing oligopoly power and encouraging diversified investment, while the policy around network industries moved in the opposite direction. Today, electricity provision remains a monopoly of Eskom, a state-owned corporation. Telecommunications provider Telkom, although partially privatised, has had its monopoly over fixed line provision was extended by the state to a five-year period and beyond. This was done on the basis of what Bhorat et al call a "misguided belief that Telkom would follow through on its commitment to the extension of services to unserved customers in poor rural areas, as well as to raise the privatisation sale value of the company" (p. 15).

In terms of industrial policy, the relationship between the department of trade and industry (DTI) and the National Treasury has been defined by unease and distrust. The DTI attempted to push a sector or cluster-based development strategy that would combine various incentives. The Treasury opposed this on the basis that the DTI would be "picking winners" and blocked programme implementation, weakening the relationship between domestic producers and government. Although several studies have shown that the industrial incentives introduced by the DTI in the post-apartheid period had reasonably positive impact, the 1994–2005/6 period saw a steady decline in the overall value of the budget for DTI programmes. The Treasury is renowned for its narrow focus on managing the country's debt. While this is important in its own right, a failure to balance priorities will leave an untransformed economy intact.

Having said this, research into the DTI's impact also points to a lack of coordination between it and other influential government departments. As noted by Bhorat et al, DTI incentives for small businesses have been rendered relatively impotent by a failure to improve the regulatory environment for small businesses. The authors cite a series of reports for the Presidency in 2005 which demonstrated how municipal, labour and other regulations undermined the capacity for growth in the small business sector (p. 15).

Bhorat et al claim that fragmentation is the overriding characteristic of government in South Africa today (p. 17). This is particularly so in economic policy formulation and implementation. For example, even with strong political support for industrialisation, the DTI's annually revised Industrial Policy Action Plan is not received as a strategy to be followed by all arms of government. At the level of policy and rhetoric, calls for industrialisation seem urgent, but the government's ability to implement and monitor programmes is systematically limited. This lack of policy coordination will not make a dent on the skewed structure of South Africa's economy.

Curse of "rent-seeking"

Overall, the authors note that the performance of government has deteriorated quite sharply in recent years. The World Bank governance indicators indeed show a clear decline in the quality of governance in South Africa since 1996. Perhaps the most unfortunate reason for the government's implementation weakness involves the capture of parts of government by special interests. This capture is deeply embedded in structural features of the South African economy that continue to facilitate rent-seeking between key players. Historically, economic policy interests have long been aligned to the mineral-energy complex (MEC), beginning with the cheap labour policies of colonialism and apartheid to today's bias toward ensuring suitable exchange rates for commodity exports such as gold and minerals. Capital within the MEC has historically been highly concentrated and strongly linked to the financial sector, and MEC owners and managers have had a significant influence in economic policy, an influence that they are still able to wield today.

A primary objective of the first democratic government was to reconfigure the economy to deal with this historical legacy. One of the first acts passed was the National Economic Development and Labour (NEDLAC) Act of 1994. It constituted a tri-partite council of government, business and labour to negotiate labour laws, and required potentially binding consultations for economic and social legislation. Policy coordination would, in theory, be pursued through this structure, tasked with providing the necessary checks and balances to prevent the continued domination of the economy by narrow interests.

However, trust between the three social partners collapsed with the introduction of GEAR in 1996 and the failure of the Jobs Summit in 1998. After the weakening of NEDLAC, the corporate sector, government and trade unions settled into an uneasy but relatively stable political economy equilibrium, defined by distribution of high margins, or rents, between them.

This tripartite relationship is constrained within the bounds of labour regulation, competition policy, tax policy and equity considerations. These have not always served to enhance productivity. New firms,

Source: Eric Miller/REUTERS

which could create a more competitive environment and normalise returns, still face high barriers to entry, and serious efforts to engage in thinking through and implementing labour market reform have not been undertaken. Black economic empowerment (BEE) measures have had little redistributive impact, and their emphasis on transferring ownership and control to the political elite has largely excluded low-skilled labour, the unemployed, and those in the informal sector. BEE seems to be the outcome of a pact between the ANC government and previously white-owned firms that were concerned about securing their property rights and influencing economic policy. Indeed, the authors note that 56 ANC officials and politicians can be found on the boards of directors of JSE-listed firms (p. 27). The persistence of rent-seeking and the failure of NEDLAC to achieve its stated objectives have disappointed the prospects of the unemployed and the hopes of those who would like to see rents transferred into higher-productivity and higher-investment growth enhancing actions.

A STRONG STATE BASED ON TRUST

In order to transform its economy to meet the needs and aspirations of its people, Bhorat et al argue, South Africa needs a strong and effective state to lead a process of breaking away from the path-dependant pattern of low value-added exports and oligopolistic market structures with high margins. Such a strong, efficient state is also essential to manage a transition away from a growth trajectory financed by short-term capital flows and dependant on domestic consumption. Finally, the rent-seeking in the South African political economy needs to be eradicated. This can only be achieved if trust is built between business, government and labour. The basis for this trust can only be secured by an efficient, programmatically consistent and coordinated state apparatus. NA

NOTE

1. For citations, please consult the original paper. Bhorat, H, A Cassim and A Hirsch. 2014. Policy co-ordination and growth traps in a middle-income country setting: The case of South Africa. WIDER Working Paper 155/2014. Helsinki: UNU-WIDER. Available at https://www.wider.unu.edu/sites/default/files/wp2014-155.pdf

IDEAS AND POWER

ACADEMIC ECONOMISTS AND THE MAKING OF POLICY

By ***Vishnu Padayachee***

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From the struggle years of the mid-1980s to the gearshift of the mid-1990s, progressive academic economists played a tangled role in the development of South Africa's post-apartheid economic policy.

THE DECADE OF LIBERATION

For the progressive anti-apartheid academic community, the mid-1980s was a period of feverish excitement. Led by the United Democratic Front (UDF), labour, civic and political mobilisation reached new heights following the township turmoil that began in November 1984. The independent non-racial trade union federation, the Congress of South African Trade Unions (Cosatu), was formed in December 1985. Internationally, the sanctions campaign intensified, culminating in the US Comprehensive Anti-apartheid Act of 1986. In mid-1985, a partial state of emergency was declared; it became total one year later. These and other developments stimulated the establishment of new research organisations to provide support to progressive movements and formations.

These networks – which were frequently harassed by the state security police and forced to meet and work secretly – were led by young social scientists and economists, mainly white and male. Many had returned from studies in British and European universities in the 1970s, where they had fallen under the spell of Western Marxism. Some South African academics linked up with non-university-based research networks. Others set up or joined the externally funded research centres that were formed in the second half of the 1980s. These included the Labour and Economic Research Centre, the Community Agency for Social Enquiry, the Community Research and Information Centre, the Community Research Unit, the Labour Research Service, the Labour and Economic Research Project, the Sociology of Work Programme, Planact, the Centre for Health Policy Studies, the Centre for Development Studies and various regional education policy units.

A research consortium called Economic Research on South Africa (Erosa) was formed in the United Kingdom in the mid-1980s by a small group of progressive economists (including University of London SOAS-based Marxist economists Ben Fine and Laurence Harris and the well-known

South African émigré banker Vella Pillay), together with some members of the African National Congress (ANC)'s department of economic planning (DEP). Erosa's research moved beyond critique into policy recommendations, including work on the minerals-energy complex, the savings-investment constraint, and the nature of the South African financial system. The group related to the ANC-in-exile through Pillay, Max Sisulu and Pallo Jordan.

The development of academic-led thinktanks was boosted by a number of milestone international conferences. The first was held at York University in England in 1986, with the theme: "The South African economy after apartheid". The conference brought together anti-apartheid liberal and leftwing economists whose participation was closely vetted by the ANC. Off-agenda meetings between South African academics and the ANC delegation, which included Essop Pahad, Harold Wolpe, Rob Davies and Wally Mongane Serote, were held under conditions of secrecy. While the conference did not come up with any significant policy positions, it did bring together for the first time some key people who would play an important role in the economic policy debate in South Africa.

A veritable flood of anti-apartheid policy conferences followed. Progressive South African social scientists and economists were able to connect with high-ranking members of the still-banned ANC, South African Communist Party (SACP) and South African Congress of Trade Unions (Sactu).

ECONOMIC TRENDS RESEARCH GROUP

The Economic Trends Research Group (ET) was initiated at Cosatu's request in late 1986. Co-ordinated by Stephen Gelb, a Canadian-trained South African economic historian-turned-economist,

> **"From neo-Marxism and socialist alternatives in the 1970s and '80s to a conservative and "pragmatic" Washington Consensus model by the mid-'90s: how can this shift to the right be explained?**

ET began with eight researchers based in Johannesburg, Durban and Cape Town. By late 1990, membership had grown to 21. ET's initial work was to examine the likely impact of sanctions on the economy and on Cosatu membership. However, it soon broadened its scope to examine the structure of the South African economy and the nature and origins of the crisis that had beset the economy since the early 1970s. That culminated in a major report to Cosatu and a 1991 book, *South Africa's Economic Crisis*. The theoretical foundation of the research was "racial Fordism", Gelb's South African adaptation of the French Regulation School.

One of ET's main claims to fame is to have forged an effective working relationship between mainly university-based researchers and a major national labour movement. However, the links were neither highly structured nor as strong as many believe. Key to its success were the mainly white male "organic intellectuals" of the union movement, most from the National Union of Metalworkers of South Africa (Numsa), including Alec Erwin, Jay Naidoo, Bernie Fanaroff and Geoff Schreiner. Even as late as September 1989, there was an intense debate about extending ET's reach more formally into the union federation. According to original hand-written notes from a Cape Town meeting, Alec Erwin argued passionately for ET to form closer relations with the structures that some unions had set up to look at economic policy: "This is a time of acute political change. Organisations and intellectuals need to engage. Let's not establish a broad bank of knowledge first and then intervene, but get into research and policy formulation, learn from other experiences and press on". But this plea met with resistance.

I would argue that the ANC in London was highly suspicious of the ET leadership. Some ET researchers were also reluctant to have their work directly associated with the political movement. There were also concerns, both within and outside the group, about the appropriateness of the theoretical approach. As Ben Fine noted a few years later:

> Gelb's notion of racist Fordism... quite clearly reflects the imposition of a questionable regulation theory originally developed for other purposes with limited purchase on the peculiar features of the South African economy. It is quite incapable of dealing with its complexities and differences at the level of detail. (Fine 1996:242)

THE MACRO-ECONOMIC RESEARCH GROUP

During a visit to Canada in June 1990, ANC President Nelson Mandela spoke of the "urgent need for a better understanding of economic policy issues in South Africa within the anti-apartheid movement as it prepares for forthcoming negotiations" (Van Ameringen 1995: 2). A team of Canadian and African economists (headed by Gerry Helleiner, and including »

John Loxley and Benno Ndulu) was appointed to make recommendations to the political leadership for improving the movement's capacity to formulate economic policy. Their work was co-ordinated by Canada's International Development Research Centre (IDRC).

The team made two major recommendations. The first suggested that the movement enhance its capacity to monitor economic developments arising from the actions and policies of the apartheid state and the private sector. The second called for the establishment of a local and international Macroeconomic Research Group (Merg), to "stimulate and co-ordinate policy research and training in the identified priority areas" (Van Ameringen 1995, 41).

Merg was led by a steering committee of representatives from the ANC, Cosatu and the South African National Civics Congress (Sanco) – although Sanco was hardly a presence at any level of the Merg process, for reasons that remain unclear. Merg's training and capacity building programme aimed to build a core of some 200 to 300 black economists by the end of April 1994. The research programme, launched in January 1991, identified 11 projects, including a macroeconomic framework and a model of the South African economy. Leading international economists (among them, Australian modeller Peter Brain and the New School's Lance Taylor) came for lengthy periods to train South African researchers, and selected young black South African economists were sent abroad for short courses or formal postgraduate studies. Some of the leading bureaucrats now in the National Treasury and other state departments were beneficiaries of this scheme. Over two years, Merg research teams produced 45 research papers.

In March 1993, the Merg steering committee set up a reference team and editorial committee of both local and international economists to produce a macroeconomic framework. Their meetings with key ANC policymakers were particularly tense. The DEP argued that they were regularly ignored or countermanded by Merg officials, and that ANC policy documents were not being used a basis for Merg's work.

At a formal media launch in December 1993, following widespread debate involving the ANC and Cosatu, the editorial committee presented the final report to the democratic movement. At the meeting, the head of the DEP publicly rejected it in its entirety. The report was later published as *Making Democracy Work: A Framework for Macroeconomic Policy in South Africa* (Bellville: Centre for Development Studies). Vella Pillay had secured a foreword from Nelson Mandela, but this was vetoed by the DEP.

The Merg exercise holds several lessons concerning the role of progressive academics in policy research. Firstly, the antagonistic relationship between local and foreign (mainly British) academics reflected different cultures and histories of policy engagement. Secondly, the urgent need to present policy options tended to conflict with the longer-term task of training and capacity building. Thirdly, the role of international economists was unnecessarily controversial. It was argued that the "disproportionate" number of foreigners effectively wrenched the policy process out of the hands of South African nationals, and made it more "top-down" than was originally envisaged. Kentridge (1993) writes that Stellenbosch economist Servaas van den Berg complained to DEP head Trevor Manuel, "that not since colonial days had South Africa's economic policy been drawn up by foreign economists".

Despite all the difficulties, the Merg Report was widely acknowledged as an important challenge to the National Party government's Normative Economic Model (NEM). Sanco placed it "among the most rigorous, even-handed and stimulating ever produced about the South African economy". The SACP's Jeremy Cronin said it demonstrated that "we [on the left] can reconstruct without resorting to voodoo economics" (personal correspondence with Merg co-ordinator). The Sunday Times (28 November 1993) observed that the Report's tone was "sober" and "considered", and positive reviews appeared in international journals like the *International Review of Applied Economics*:

> it is hard to see a peaceful or prosperous society emerging from the application of the "orthodox economics" of the NEM. In comparing Merg and the NEM in the light of the appalling legacy of apartheid, it seems clear that there is no alternative to an approach modelled on that of the Merg. (Edwards 1995: 108)

So why was it dumped in such a public manner? Jeremy Cronin argued that the absence of Merg's "outstanding British economists" in the debate following the Report's launch contributed to the project's marginalisation (*Weekly Mail*, 20–26 June 1997). This may be part of the explanation, but I would argue that the ANC leadership and some local economists had become convinced that an interventionist, Keynesian, social democratic "growth through redistribution" model was outdated and that, given prevailing global power relations, there was no alternative to a Washington Consensus approach. Ironically, even the World Bank – following its 1993 East Asian Miracle report – was beginning to distance itself from this hardcore neo-liberalism.

In 2007, in the context of an increasingly strident debate over economic policy, Terry Bell noted, "Behind the latest series of spats between senior members of the governing tripartite alliance is the spirit and legacy of the late Vella Pillay. Pillay headed the first alliance economics thinktank, the Macroeconomic Research Group (Merg), which drafted – and controversially discarded – the first post-apartheid macroeconomic statement" (Bell 2007).

THE RECONSTRUCTION AND DEVELOPMENT PROGRAMME

In contrast to Merg, academic economists had almost no role in drafting the Reconstruction and Development Programme (RDP), which was launched as the ANC economic manifesto just before the April 1994 elections. Instead, as Patrick Bond observed, "several dozen praxis intellectuals from the NGOs and labour drafted the document, partly, I think, because they had close working relationships with the democratic movement social forces who mandated the drafters to move in this or that direction" (Personal communication, July 1997).

Four or five workshops were held, each attended by about 100 members from movement structures, making it arguably the most democratic process to formulate an opposition economics document. But it did not involve many academics. It appears that the grassroots leaders charged with driving the RDP did not trust what may have seemed endless theoretical debates when the need for decisive policy positions appeared most crucial. Bond, who was a key figure in the process and later served in President Mandela's RDP office, believed that the ANC leadership was not entirely comfortable with the RDP, and that their acceptance of it as a basis for post-apartheid reconstruction was a political act. It became little more than a discursive symbol around the time of elections and immediately thereafter (ibid.).

> **The antagonistic relationship between local and foreign (mainly British) academics reflected different cultures and histories of policy engagement.**

The final version of the RDP was not the radical document many people thought it was – and some still believe today. Its recommendations in respect of trade, monetary and exchange rate policy and the independence of the Reserve Bank, among others, closely tracked Washington Consensus thinking. As Bond noted, "status quo" forces, both South African and international, had made great efforts since 1990 to influence the political leadership of the ANC. In the end, the RDP reflected an uneasy compromise that combined "a social welfare state in the developmental sphere with neoliberalism in the economic sphere" (Bond 2000:54).

THE GROWTH, EMPLOYMENT AND REDISTRIBUTION PROGRAMME

The publication in February 1996 of South African Foundation's Growth for All strategy, followed shortly thereafter by the labour movement's Growth and Equity document and the dramatic collapse of the currency in the first quarter of 1996, all forced the hand of the ANC-led Government of National Unity into producing its own macroeconomic framework document, in part to reassure jittery international markets of its fiscal prudence. On 14 June 1996, Finance Minister Trevor Manuel unveiled the "non-negotiable" Growth, Employment and Redistribution (Gear) programme.

The document acknowledges the assistance of a team of 17 technical experts, of whom 16 were white and 16 were men. Six were from South African universities, 3 worked at the Development Bank of Southern Africa, 2 at the World Bank, 2 at the South African Reserve Bank, and one each were from the departments of finance, labour, trade and industry, and the deputy-president's office. Only 7 of the economists had been involved in the earlier policy processes of the movement.

There is still surprisingly much that we do not know about the process that led to the production of Gear. Who did what? What databases were used for the modelling work? Was the secrecy surrounding it and the announcement of its "non-negotiability" just the normal way that governments produce policy documents? Was former SARB Governor Tito Mboweni correct to claim that most of the problems surrounding Gear would not have surfaced had there been better consultation within the movement (Sunday Independent, 1 June 1997)?

SOME CRITIQUES

In a prescient 1996 article, Mike Morris referred back to the Economic Trends research group and its relationship with COSATU, warning that the legacy of the past may lead political activists and intellectuals in two dangerous and contradictory ways: one to return to a totalising framework – romantic, appealing, unrealisable slogans of the past – and the other to slide into the "technicist logic" of apartheid-era policymakers. This is dangerous because, "if social problems are reduced to technical ones in the tense and fraught transition currently under way in South Africa, it is a short step to authoritarian repression to ensure the implementation of unpopular technical solutions" (Morris 1996: 270–1).

Mike Neocosmos (1997: 53) argued that left intellectuals largely followed the current into the "corporatist statism" of the 1990s and conformed to Mamdani's characterisation of African intellectuals as "state fetishists". He charged progressive economists with placing too much faith in the new state to resolve the problems of development and ignoring popular organisations. By the early 1990s, the responsibility for economic transformation was left entirely to the state.

In a blistering polemic, Desai and Bohmke traced what they term the current "retreat" in the thinking and practice of progressive South African social scientists and economists from the mid-1980s. The mainly white male economists in the ET group, knit together in an anti-apartheid "Bohemian" sub-culture, were closely allied to the non-racial trade union movement and distinguished themselves by criticising the ANC-led liberation movement when they felt this necessary. However, with the demise of apartheid, the "bottom fell out of their market" and as "the new government moved to the right", the theoretical disposition of progressive economists "moved in tandem" (Desai and Bohmke 1997: 30–31). Most of the ET group, they contend, tossed their main weapon – critique – into the sea and sought their political rehabilitation by quickly becoming consultants to the ANC, and then by providing academic rationalisation for the new neoliberal economic philosophy: "Because this same set had so dominated left-thinking in South Africa, their betrayal has all but crushed a critique of the transition" (Ibid: 32).

THE CHANGING CONTENT OF POLICY ADVICE

Two general trends are evident from the above account. First, that the decade of liberation was characterised by a gradual process of organisational coherence in the relationship between academics and social and political movements. However, before Merg's work was complete, divisions began to emerge as the democratic movement edged towards power.

The second trend is the relatively rapid change of the theoretical foundations of the advice offered by economists. From neo-Marxism and socialist alternatives in the 1970s and 1980s, to regulation theory, to a Keynesian approach, to a post-Fordist vision of global competitiveness, and finally, by the mid-1990s, to a conservative and "pragmatic" Washington Consensus model: how can this shift to the right be explained?

A number of explanations – some mutually reinforcing, others contradictory – come to mind:

- relative isolation, which intensified after the mid-1980s, a lack of innovative thinking, the absence of a broad-based and rigorous economics debating tradition, and the fact that most progressive economists working with social movements did not originally train as economists, left them extremely vulnerable to the neo-liberal juggernaut
- a global political and intellectual swing after the collapse of Soviet and eastern European style socialism. The Washington Consensus was the hegemonic view that South Africa's progressive economists had to confront and counter in the 1990s
- the marginalisation of many civil society organisations in the 1990s, and the decision by Cosatu, the SACP and Sanco to accept the leadership of the ANC in the liberation struggle. Progressive academic economists lost direct touch with the radical traditions of the mass-based movements, and related more and more to the pressures of the ANC leadership, whose agendas were increasingly being set by conservative forces
- the growing influence of South Africa's corporate conglomerates over the direction of economic policy further eroded spaces for progressive thinking and ideas
- the mainstream media exerted huge pressures on the progressive community, including its academics and political advisors.

Most of these factors also directly influenced and shifted economic thinking within the ANC, and I would argue that it was this that made the most significant impact on the small progressive economics community. The reason lies in the attraction to power that academics all over the world have displayed throughout history. For the left in the 1980s, "power" rested with the socialist-oriented workers' movement and Cosatu. In the 1990s, it shifted to the multi-class nationalist-oriented ANC. Many progressive academics followed this trend, contributing to their subsequent disempowerment when, after the initial honeymoon was over, critical intellectual skills were most needed. Noted Berkeley sociologist Michael Burawoy (1997:1) sets out the context:

Without a critical stance toward... Soviet socialism, having never partaken in the debates about the meaning of socialism – real and imaginary – the liberation movement in power found itself without a cognitive map to navigate the enormous problems of national reconstruction. An "exodus without a map", as Adler and Webster call it, became vulnerable to a neo-liberal redemption, especially when the entire globe is spellbound by the magic of the market.

Given the change in the economic philosophy of its political leadership, progressive economists suddenly found themselves having to make difficult choices. Many chose to move into state jobs. Some *nominally* accepted this new thinking with the objective of trying to influence developments from within movement structures. Others accepted the change more easily and chose to stay close to the ANC in order to secure the lucrative contracts that they believed (correctly) would come their way. Yet others retreated into their universities to resume the task of critique, albeit in new conditions. One group, feeling demoralised and defeated, settled into a period of academic silence. Only a handful have tried to combine a vigorous, progressive critique with direct engagement with state structures and structured links with civil society organisations.

SINCE GEAR

As predicted in Padayachee (1998), the spaces for progressive engagement over the really big questions of development strategy and macroeconomic policy within the state have closed up. The government has consolidated a new, committed and pragmatic economic and technical elite, drawn in part from the former progressive economic community, but also from the old apartheid state machinery. Many can be found in the two pre-eminent economic institutions of the new South Africa: the National Treasury and the Reserve Bank. The National Treasury has also funded Economic Research Southern Africa (Ersa), which supports research and organises high-level workshops on both theoretical and policy issues that are often attended by state bureaucrats. For monetary and fiscal policy, state institutions turn principally to economists at the Universities of Stellenbosch and Pretoria.

Among international economists, the state values the input of the so-called "Harvard Boys", including Dani Rodrik and Ricardo Housman. Of those international comrades engaged in previous economic policy networks, to my knowledge, the Reserve Bank and the Treasury only call regularly on SOAS's Laurence Harris. Technical advice from independent academic economists is no longer that important and radical alternative ideas and critique appear to be eschewed – despite occasional talk from the top of the importance of "robust and critical intellectual debate" in shaping policy. In contrast, some Cosatu affiliates and Numsa continue to engage the services of the still radical SOAS economist Ben Fine and some of his associates now based in the Wits University economics department.

Challenging and important tasks remain for South Africa's progressive academics, including its economists, to busy themselves with in the post-apartheid era. In John Bellamy Foster's words –which I quoted in my University of Natal inaugural address nearly 15 years ago, and which remain valid today – these include the necessity

> to advance a politics of the truth; to avoid easy compromises; to address the immediate and long-term needs of the mass of the population and of those who suffer the most severe forms of oppression; to search for the common ground of that oppression; to resist ideological claims that "we are all in the same boat" in this society; to reject what Mills called the "crackpot realism" that makes the status quo into a kind of inescapable second nature and closes off the future; to fight market fetishism. In short, to avoid making what Raymond Williams called "long-term adjustments to short-term problems". (Foster 1990: 286)

The acute economic, social, environmental and political crisis facing both South Africa and the world today, and the dramatic growth and rapid spread of anti-establishment protest movements, all suggest that progressive economists and social scientists need to take up both old and new challenges with even greater urgency than when the Berlin Wall fell and Nelson Mandela walked out of prison over 20 years ago. NA

NOTE

This is a shortened and edited version of the author's 2011 Dr AB Xuma Memorial Lecture at Rhodes University.

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THE 350-YEAR COMMEMORATION OF THE CASTLE OF GOOD HOPE

1666 - 2016

FREEDOM FROM OPPRESSION

In 2016 we mark 350 years of the Castle's existence. This is an opportunity to firstly acknowledge its associations with colonial exploitation, slavery, persecution and pain. Secondly, it offers momentous chance to commemorate the Castle in an inclusive, participatory and democratic manner - thus creating the basis for understanding, healing and nation building. This will also support our ambitions to have the Castle declared as a UNESCO World Heritage Site

Mr Calvyn Gilfellan, Chief Executive Officer at Castle Control Board

The 350-year commemoration is a once in a lifetime opportunity to reposition, reimage and reimagine SA's most imminent colonial building. After 18 months of painstaking consultation and engagement, we reached a common understanding to plan for a year-long commemoration – and not a celebration. One cannot in all decency celebrate the atrocities, slavery and oppression synonymous with the Castle under colonial rule.

We also agreed that the events should be inclusive, healing and contribute towards understanding and nation-building. In other words every South African no matter their political, religious, demographic or socio-economic background, must feel part of it.

Given the expressed significance, symbolism and perceptions attached to this institution, we are glad to announce that this will be a national event led by government in partnership with a wide range of stakeholders and role-players wherein every community should be able to participate.

It is our sincerest wish that every South African citizen and visitor would seize this opportunity to truly make the Castle theirs.

COMMEMORATION PROGRAMME OBJECTIVES

- To tangibly demonstrate the overall significance of the Castle in relation to the historical, political, social, cultural and economic genesis of South and Southern Africa;
- To re-examine, re-determine and re-define its present day relevance to all South Africans, especially those who were previously marginalised and whose histories associated with the Castle were misrepresented, suppressed and ignored;
- To seize this opportunity to educate and re-educate all South Africans (but in particular learners in whose curriculum the Castle features) about true the history of our country;
- To leave behind high profile legacy projects that will positively transform the image of the Castle (Institute for African Colonial Studies, a fully-fledged-heritage seminar room).

PROGRAMME HIGHLIGHTS 2016

DATE	EVENT DESCRIPTION
MAY	Honouring Sporting Heroes - the forgotten sporting heroes who were fighting for our liberation. The 350 commemoration will be used to look at the rugby, soccer, cricket and other sports heroes and heroines, as the debate on transformation is still fresh from the Rugby World Cup. Many of these people are now in their 70's and have never set foot inside the Castle.
JUNE	Youth month programmes -various activations of youth interest will be hosted at the Castle.
JULY	Military Veterans Skills Development Training - this is a huge part of the Castle's education and empowerment initiatives.
AUGUST	Women's month - there will be a process to start the repatriation of the bones of Krotoa from Die Groote Kerk. Krotoa was a Khoi woman who was brought up in governor Van Riebeeck's house (at the Fort not far from the present day Castle), who then became a translator for the Dutch and married a white man. When she died her bones were buried at the Castle and later removed - a great distress to the Khoi groups. She remains a significant figure to the Castle. Women dialogue sessions and workshops will also be held at the Castle to address issues that ordinary women face.
SEPTEMBER	Heritage Month event and the unveiling of a "memory wall" by the Ministry of the Defence and Military Veterans and associates. This event will coincide with the unveiling ceremony of a "Memory Wall"; a granite/stone structure with the names of those significant carved into it. Official opening of the Castle's Conference Centre, Boardrooms and Lounge areas, in time to host year-end events.
OCTOBER	Cape Town International Flower Show - a 350-signature event in Cape Town. This will be the inaugural commercial event to take place at the Castle following the completion of the Castle refurbishment project.
NOVEMBER	National Defence Force focus and a Series of Summer Concerts - picnic style events will feature local and international artists with a strong focus on creating a platform for Local Emerging artists.
DECEMBER	Emancipation of the Slaves Day and Military Veterans Memorialization Event.

THE ARCHITECTURE OF SOUTH AFRICA'S POLITICAL ECONOMY
PROSPECTS FOR TRANSFORMATION

By ***Ben Turok***

The author is an economist, former ANC member of parliament and the editor of New Agenda

Ben Turok sketches out the balance of forces in South Africa's current state of turmoil to better understand the possibilities for progress.

The current turbulence in South Africa, which is disturbing the relative stability of the post-apartheid period, demands serious examination. A series of mass demonstrations has registered deep objections to the performance of the government and the African National Congress.

At the same time, it is notable that this disapproval is articulated within the broad framework of the Freedom Charter and the long traditions of the ANC-led liberation movement. No other political formation has greater credibility or legitimacy.

Three extramural social forces, each with different immediate demands, have demonstrable mass support. The trade unions, despite being split, are still able to defend the material interests of important sections of the workers. The students have shown remarkable unity in action despite the absence of an organised centre and leadership. The Economic Freedom Fighters (EFF) has confirmed its ability to mobilise tens of thousands of supporters in disciplined mass action.

It is therefore necessary to review the balance of forces in our social system and to characterise this moment in our history. The old categories of class and race are inadequate to explain the tensions and contradictions.

It is also necessary to consider what the ANC-led government can do to meet the challenges posed by these social forces. Is it possible to provide adequate concessions? Are there financial and institutional capabilities to do so? Is it possible to respond with repressive measures? What could be the outcome? And where is the leadership to come from?

It seems that a vacuum has developed at the top of the system, notable for indecisiveness and a wait-and-see attitude. What follows are some preliminary thoughts on our condition.

THE LEGACY

The most striking feature of South Africa today remains the physical differences between white and black areas. Affluent city centres and suburbs are ringed by impoverished townships and informal settlements. A further contrast is apparent in the countryside between white commercial farms and African rural areas that often do not even support subsistence farming. These physical features are manifestations of deep structural faults and the legacy of internal colonialism – a system of economic subjugation reinforced by political means.

THE ANC AND THE DEMOCRATIC TRANSITION

The liberation struggle, supported by international solidarity, forced the apartheid regime to negotiate a transition. This campaign focused on political enfranchisement, leaving economic change in abeyance.

After 1994, the ANC incrementally took over the state system, deploying its own cadres in the legislature, executive and judiciary, as well as the security organs. A new Constitution with a Bill of Rights was accepted after long negotiations, and garnered a great deal of praise around the world. Parliament repealed apartheid legislation and drafted new laws and policies appropriate to the new situation.

However, the control and ownership of the economy remained unchanged, as did the lifestyle of the majority of people, reflecting the huge inequality of income and wealth.

In 2012, the ANC resolved to initiate a "second phase of transition" that was meant to be economic in character. The discussion lost steam after giving only minor attention to black economic empowerment (BEE) processes that ›› enriched the few but increased the frustration of the aspirant middle class.

The prohibitions of the apartheid system had restricted the aspirations of black businesspeople, particularly Africans. Under democracy, the dominance of white people in the economy continues to present a barrier to entry for black entrepreneurs, who at best become junior partners in an exclusive business culture. The BEE focus on ownership has inadvertently supported the development of a parasitic black elite, while also discouraging the spirit of self-directed entrepreneurship. Thus a potentially dynamic class is rendered sterile and politically passive, and the racial and class divide of the past remains in place.

With the state then becoming the primary avenue for employment creation and career advancement for black South Africans, new state-dependent social strata emerge: senior managers, middle-level officials and workers. This follows the pattern of post-independence Africa.

To assist the poor, the state introduced a large system of welfare grants as well as housing and the extension of health, education and infrastructure services. This brought some relief from poverty, but not enough to sustain a reasonable existence.

The problems of inherited poverty have been exacerbated by rising numbers of unemployed, including young people as they become available for work. Those in work have had to fight for a wage that would enable each worker to support a substantial number of dependent family members. Migrant workers have faced dual responsibilities for two families.

The tragedy of Marikana highlighted, as never before, the suffering caused by the migrant labour system and the failure of government and business to eradicate its worst manifestations.

> **“The prevailing economic thinking in South Africa lags behind new thinking internationally on both fiscal and monetary policy.**

TWO DECADES OF CAUTION

The government opted for a cautious macroeconomic programme soon after 1994, and the economy has not grown substantially or on a sustained basis. Mining, manufacturing and agriculture, the main pillars of the real economy, have largely stagnated, with only the services sector showing significant growth – and also feeding consumption.

Due to the retreat of the real economy, import-dependency has grown, impacting on financial stability.

It is now conceded, in 2016, that the economy is in crisis. Some analysts believe that the crisis is endemic rather cyclical, and both the government and the ANC seem unable to mount an effective response. Economists of all shades offer widely differing proposals, generally of a short-term character and tending to ignore the fundamental structural character of our economic and social system.

In a surprising new shift in policy, the International Monetary Fund (IMF) has recognised the need for strong state intervention to manage the inherent negative effects of global capital accumulation. The IMF is also critical of growing inequality.

The prevailing economic thinking in South Africa lags behind new thinking internationally on both fiscal and monetary policy. It remains fixated on inflation-targeting and debt reduction and is unwilling to tackle inequality through fiscal restraints, taxation and other measures. The “wealth trickles down” mantra still dominates media commentary, and the profit motive and market forces are proclaimed as our economic saviour.

CHANGING THE ARCHITECTURE

History teaches that there are two approaches to economic reform. The first is palliative, designed to remedy some deficiency such as low wages, poor social services, or political disadvantage. Effective palliative reform is important and it may restrain public dissatisfaction, at least for a time. It does not change the intrinsic structure of the economy.

The second type of reform may include similar provisions, but is designed to establish a platform for further and more fundamental transformation. Examples include state intervention in the economy, or even nationalisation. Such reforms change the power relations in the economy by growing the state sector relative to the private sector. Measures must be taken to assure effective use of state power and avoid its negative tendencies.

Such a strategy is needed to change the inherited architecture of the political economy in South Africa, but the state lacks the capability to implement this. It lacks cadres who can provide leadership to major organisations. It may well be that the self-confidence and will to do so have also dissipated in the state and government.

There is a great deal of criticism about the political deployment of cadres to head state-owned enterprises (SOEs), and some inappropriate appointments have been made due to cronyism. However, political oversight is essential in terms of providing policy coherence, and countering corporatist tendencies. The purpose of SOEs is to provide public services at affordable prices: cost-recovery should not lead to large accumulated surpluses. We need a coherent state system with long-term strategic goals.

Short-term palliatives will not do. The masses are restless, expectations are high, and the apartheid legacy too sharp and highly visible. This is not just a matter of "relative deprivation" as some sociologists suggest. It is rooted in unfulfilled promises of a better life, and actual deprivation of the basic necessities of life.

A BOLD PROGRAMME

Regrettably, the ANC National General Council in October 2015 did not signal how we can escape from the myriad crises plaguing our society. We saw instead a great deal of lamentation about members' conduct.

Other African countries, such as Rwanda, have achieved a "hat trick" of good growth, increased employment and reduced poverty. They seem to have a plan. South Africa needs a similar vision based on a definitive characterisation of our political economy: "colonialism of a special type" is outdated, although there are obvious continuing structural features.

The key to structural reform is "inclusive growth", not as a slogan, but through practical measures.

1. First and foremost, the productive sectors must be energised by injections of both private and public investment. This requires a contract between the state and business with commitments that cannot be reversed. It is time for the government to formally recognise that ours is a mixed economy where the private sector should be induced to play a positive role. The private sector should be encouraged to meaningfully participate in the partnership beyond seeking narrow, short-terms gains. Action should be taken against pernicious transfer-pricing, offshoring and anti-competitive practices.

2. The role of SOEs must be clearly defined as providing a public service as cheaply as possible, without depending on government grants. They should also be training grounds for skills development.

3. The challenges facing manufacturing need thorough studies, with short-term protectionist measures applied where necessary, especially for infant industries. Domestic mineral value chains, including local procurement, need to be strengthened to benefit the local economy. Exports of minerals need to be regulated.

4. We need an immediate massive training programme at all levels, possibly by recalling former public servants and/or importing a large number of experts. They should primarily train trainers: teachers, officials, etc. Conditions should be attached to ensure that all beneficiaries commit themselves to proper subsequent conduct in the national interest.

5. The informal sector needs a great deal of attention. Petty regulations must be reduced, physical infrastructure built, and business advice made readily available.

6. The state should insist to all state-funded educational institutions that their teaching contribute positively to the overall development of the country. We need more emphasis on science and maths, and disciplines like economics should teach about problems in the real economy and possible solutions. This must be handled in a sensitive manner as it may be seen as interference in university autonomy. It should also not entail an attempt to downgrade the humanities.

A new national effort is essential to restore a sense of national purpose and wellbeing in public institutions. In the light of recent protest action, the government must form mutually acceptable links with students, listen to their concerns and demands, and engage meaningfully and regularly in student affairs. The "born-free" generation is alienated, disillusioned and frustrated, and distrusts government and authority generally. This trust needs to be rebuilt.

7. The morality of public life should be restored. Those who occupy top positions, whether in public life or business, must be confronted with any wrongdoing and held to account. Moralising and impunity are not enough: punitive steps must be taken to restore public confidence.

8. It is now understood in South Africa that an authoritarian state will never fly. We have fought long and hard for democracy and it must be real. This means that our formal institutions, parliament, cabinet, the public service and the judiciary must serve the public and the national interest. It also means that popular participation is included in governance, as far as this is possible. Public consent for major interventions is essential.

CRISIS DEMANDS URGENT ACTION

It is widely acknowledged that our country is in a many-faceted crisis. The economy is fundamental, but many institutional aberrations need urgent attention. Various short-term palliative measures may be necessary, but these cannot remedy the fundamental systemic rigidities we have inherited.

It is also not helpful to repeat revolutionary slogans of the past as if the overthrow of capitalism were realistically on the cards. This point is not meant to discourage left ideology or class analysis but to differentiate present tasks from visions of the future.

Indeed, the central argument here is that the whole system is so biased against the mass that palliatives are not enough and are not sustainable. A vigorous comprehensive programme is needed to transform our society. It will require the involvement of all the major stakeholders in our society. NA

CSIR: SOUTH AFRICAN PLAYERS IN R&D

An interview with ***Sibusiso Sibisi***

Sibisi is chief executive officer of the CSIR, South Africa's Council of Scientific and Industrial Research

Dr Sibusiso Sibisi

They don't make many headlines, but CSIR research and development is opening the way for new made-in-SA technology and enterprises.

Ben Turok: Is it true that CSIR was founded mainly to meet the needs of the defence industry?

Sibusiso Sibisi: The CSIR's mandate is to conduct research in order to promote industrial and scientific development, without saying exactly what scientific development means, or indeed being specific about industrial development. It just so happened that, at the time of its formation immediately after the Second World War, the focus and the expertise was in an area that had been critical during the war, namely radar technology. This continues to be an area of strength, in defence and civil applications as well.

BT: What kind of applications?

SS: Radar can penetrate cloud, so it becomes possible, for example, to read a satellite to monitor the movement of ships off the coast. Radar is also used from the ground both to monitor and guide movement in space. That is recognised internationally as an area of strength at CSIR.

But let me go back one step. A big proportion of CSIR's defence activity was hived off to what is now called Denel. So the people who make missiles, for example, are housed at Denel, and Denel reports to the department of defence and the department of public enterprises. But we continue at CSIR to have infrastructure for testing aerospace technology – things that fly in space at various speeds, ranging from helicopters to fighter aircraft to missiles.

Now, do we continue to make weapons in the sense of "things that go bang"? No. Most of what we do has to do with what one might refer to as passive defence. The radar work we do is closely connected to work on electronic warfare. It is more about jamming signals – for example, of an oncoming missile – than it is about effective guidance to attack it. We have been very sensitive to the manner in which we legitimately position our activity as defence work.

You may have seen our commercial about the deployment of speedboats from a frigate. Normally when they deploy such speedboats on to the ocean, the frigate needs to slow down pretty much to a standstill. We have developed a mechanism to deploy the speedboat while the frigate is at speed and these speedboats then pick up speed instantly. They are able to respond in a situation where you are dealing with, for example, piracy off the coast of East Africa and so on. These are the sorts of things that typically characterise our defence activities these days.

POTENTIAL FOR BENEFICIATION

BT: I believe that you seek to establish platforms that can help multiple industries, not just one, and that you also take the early risk that a private company might not want to do? Is that right?

SS: That's absolutely correct, yes. At one level, we do set up individual enterprises – for example, to commercialise a specific piece of technology we may have developed. But a more strategic intention is exactly what you've described: where there's a need for South Africa to be active in some area of industrial activity but it does not yet exist.

Let's look at something that has happened in the past. There used not to be expertise in South Africa to conduct environmental impact assessments (EIAs) of a complex nature. For example, suppose Transnet wants to expand its port in Durban or in Coega. There may be all sorts of environmental implications that we need to take into account and that require a multi-disciplinary approach. CSIR initiated such complex EIA activities, and we are still involved in it. In the Karoo, we have been asked to be involved in a quantitative assessment with regard to the feasibility and the likely implications of fracking. Now today, a number of dedicated companies do EIAs. In this way, we created an industry by taking the early risk, and it enabled a number of people to then set up companies.

Similarly, if it's something like asking how South Africa begins to move down the value chain of beneficiating resources – for example, titanium – it is not obvious that existing industries will spend a lot of money to do so. So we have done quite a bit of work to develop the chemistry necessary to produce titanium powder of a sufficiently rich grade for making components for aerospace, for airplanes. Both Airbus and Boeing

> **"To say "we don't have the capabilities" need not lead to the conclusion that "therefore we must not do it". The people who say it cannot be done typically are not the people who would be involved in doing it anyway.**

are now talking to us. We hope there will be a whole slew of companies that come about as a consequence of that work. This kind of thing is in keeping with the mandate, what CSIR is really about.

BT: I find that the question of downstream value chains – beneficiation – is meeting a lot of resistance from the Chamber of Mines. Many economists say that we cannot do it because we don't have the capabilities.

SS: I think they are partially right – but to say "we don't have the capabilities" need not lead to the conclusion that "therefore we must not do it".

BT: Their conclusion is exactly as you say. Unlike Singapore, they say, we don't have the capability and we shouldn't do it. In other words we should export all our minerals.

SS: I remember there was a famous economist at Harvard –

BT: Yes, Ricardo Hausmann.

SS: He said, "Why are you people faffing about trying to do this stuff? There are people who can beneficiate better than you. Why don't you just export and then stick to the things that you do well, like financial services and so on."

BT: And what is your view?

SS: I am not an economist. I'm not going to argue on the premise of market economy exports because I will lose. I see no reason why we cannot continue doing those things we are good at, like financial services. But I say we *also* seek to be involved in the game of advanced manufacturing to add value to our resources. Why not? Rather than say it cannot be done – and the people who say it cannot be done typically are not the people who would be involved in doing it anyway. I hear economists making these judgment calls, but not actually asking whether it is not the mandate of an institution like CSIR to attempt to do so.

BT: You are quite right. But as a CSIR scientist: if government or industry asked you whether we have the potential to increase our capabilities using scientific and technological means, how would you respond?

SS: My response would be a very emphatic *yes*. Frankly, I would take it further. Even if they were to categorically say we shouldn't do it, I would probably be defiant and do it anyway. I really think this needs to be done.

BT: Are there other state agencies like yours who take the same attitude?

SS: Yes, in particular Mintek. Its mandate is minerals processing and we talk with them quite closely. There's no question that we should be creating the industry and getting involved in beneficiation of our minerals.

By the way, when we think of our mineral resources, we tend to think of the obvious: titanium, platinum and so on. But we have started, in a very promising manner, beneficiation of our natural clays. We have clays that express certain properties on a very, very small scale, in the arena referred » to as nanotechnology. They are very well suited as additives to moisturiser creams and various other applications. And we are fortunate in having a lot of these nano-clays. It's an area we should bear in mind. In fact, there's huge potential in the cosmetic industry and the medical industry.

SUPPORT FOR EXISTING AND NEW INDUSTRIES

BT: You also take some steps towards existing industries. Do they pay for it?

SS: It is a combination of things. If a company is very clear what it is after – if, say, Sasol asks us to do such-and-such a piece of work for them – then we will set up a contract. There are a lot of existing industries that we help with, including the state-owned enterprises. Typically they know what they are after and we then do work with them. They will put up their own money.

We may be commissioned to do something very specific. Transnet was worried about derailment of trains, so we worked with them to develop a technology for very early detection of potential breaks or cracks in railway lines. We do that by sending an acoustic signal down the railway line. If you don't pick up the sound wave properly at the detector further downstream, then you can infer that there must be a crack somewhere because sound will travel extremely well through a piece of railway steel that has no cracks in it. We have deployed it on the Saldanha Bay railway line and it has in fact saved Transnet a great deal of money because each derailment can cost them hundreds of millions of rand.

In other instances, we go to the companies. I'll give an example. We received funding through DST [the department of science and technology] and DTI [the department of trade and industry] to form the National Cleaner Production Centre (NCPC). In fact, it was funded ultimately by the Danish International Development Agency. The NCPC contacts industries, particularly small industries, to offer assistance with better use of energy, better production processes, supply chain management and so on, to bring down the cost of production. For a small company, it could be a significant intervention.

BT: Can you tell me something about your encouragement of new enterprises?

SS: In biotechnology, we set up the Biomanufacturing Industry Development Centre (BIDC). We look at technologies that can be turned into business propositions without requiring too much technical expertise. Then we find small industry players, typically from different parts of the community. It might be in remote areas – for producing essential oils, for example, which then might be bought by the cosmetic industry. It's ultimately based on technology that we've developed here. I'm not talking about the kind of industry that requires very huge upfront investment – if you want to get into the game of drug discovery and register a drug through the Food and Drug Administration, that's a very lengthy process.

> **"We look at technologies that can be turned into business propositions without requiring too much technical expertise.**

We have a lot of funding from the department of labour to assist with the formation and support of such enterprises. We are not directly incubating them within CSIR but we go out to them in the community. They may need to use some of our facilities and equipment that are too expensive for them. We will test samples of a new essential oil in our lab before it can be taken further as a commercial venture. IDC might come in as a partner to fund the activity or small business development.

BT: Do you also work with the Industrial Development Corporation (IDC)?

SS: Yes indeed. For example, we were producing titanium powder in the lab in very small quantities. We then needed to be able to produce significantly more quantities in a given amount of time, kilograms of the stuff, to demonstrate that the process was industrially competitive. We built a pilot plant on our premises at CSIR. IDC is a co-investor in this plant, as well as a pigment company called Tronox, which used to be part of Exarro.

If the process works at that level, we'll need to build a much bigger plant, at which point CSIR might have to exit because we cannot play in that space anymore. It would be billions of rands of investment. Then IDC and other commercial players would be the natural parties to take that on and take it further. It would be founded on the work that we have done initially, as CSIR, and the pilot plant with IDC and Tronox.

THE BOTTOM LINE

BT: Can we turn to the question of funding? Can you give us a rough breakdown of public sector funding and private contracts?

SS: Just over 30 percent of the money we receive is a parliamentary grant that we can use at our discretion to conduct research in a variety

Source: CSIR

of areas. Beyond that, the bulk of what we get through contracts is actually still public sector money. That would include money from, say, the department of energy or the department of defence to develop some work for them. We do a lot of work with the likes of Eskom and Transnet, state-owned enterprises that are in the public sector but not government departments. Funding from contracts in the actual private sector is fairly small…

BT: One third?

SS: Less than 20 percent. It is quite small but this tends to get conflated. The private sector might spend a lot of money that arises as a consequence of work that we do, but which doesn't appear on our income statement. As I mentioned, Tronox invested directly in a scaling-up plant to test our technology for beneficiating titanium, but you are not going to see that on my income statement. So if that is used as the proxy for how much the private sector is spending, you'd get the wrong impression. You'd say, "Look at how little money CSIR is making from the private sector." But my immediate interest is not necessarily to make money out of a company or state enterprise, but to stimulate them to spend money. If any company decides to spend money on R&D as a consequence of something we have done, that is good – even though that money is not going to be reflected as income to CSIR.

INDUSTRIAL POLICY SUPPORT

BT: You also have a policy role with the DTI and others. How does that work?

SS: One way is in the formulation of the Industrial Policy Action Plan. We might be asked to make a contribution in particular sectors, such as aerospace. We have an expertise in South Africa, both in CSIR and Denel, in unmanned aerial vehicles – drones. It has become very much a commodity area, with many people making drones on a smaller scale. In policy terms, is this an opportunity for us? We can say what expertise exists in South Africa, in materials, in technology, and so on, and the direction that the industry is going. So that kind of thing might make its way into the Industrial Policy Action Plan.

Or it might be through environmental impact assessments, like with fracking. Let's take the emotion out of it a bit and talk about what really is there underneath the ground. Are the estimates reliable about how much gas we can extract? What are the likely consequences? How much is it really going to affect the environment? And then take an evidence-based approach.

SCIENTISTS, ENGINEERS AND TECHNCIANS

BT: What are the employment numbers at CSIR?

SS: Of 2 500 employees, around 1 700 are involved in research in one form or the other – scientists, engineers or technicians.

BT: Where do you get them? Everybody says, especially some of my economist friends, that we don't have skills.

SS: Well, if you want to build a new institute from scratch and you need five hundred scientists, I suppose you would struggle. But we are replenishing people at the turnover rate of 10 percent per year, so we can recruit from the universities. We try, as best we can, to provide bursaries to students without necessarily obliging them come and work here, so they look upon CSIR as a prospective employer. There are quite a number of PhDs applying, from not just within South Africa but from different parts of the world.

As you know, scientific endeavour is an international activity. The director of our nanotechnology centre is from India and he is very well respected internationally. In this case, we approached him. We are particularly keen to be a home for African scientists who want to be on the African continent, so there are a number of extremely good scientists from

southern Africa, East Africa, Cameroon, Nigeria, and so on. I think it is a very good thing. People can go work in the US or the UK for a long time, then ultimately they get to the point where they want to come back to Africa.

BT: What about the supply from South African universities?

SS: I am hesitant to answer definitively yes or no. It could be better. In an ideal world, if someone pops up and has just finished a PhD and is looking for a job, I could say instantly, "Yes, I have a position for you." But sometimes

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> **If any company decides to spend money on R&D as a consequence of something we have done, that is good – even though that money is not going to be reflected as income to CSIR.**

it does not pan out that way. By and large, we would like to be able to accommodate, and I say this with some caution, virtually any South African who says that they are interested in research.

BT: And the quality is good enough?

SS: We have a number of very young people in our research cohort, which is a very healthy thing. When the individual has just finished a PhD, it is not entirely fair to ask of them the quality of question you would of someone with twenty years' experience. So there are areas of excellent quality, but there is always room to get better. I am by no means gloomy about things, not in the slightest.

BT: Do you do a lot of training?

SS: Training has been ongoing and is embedded into everything that we do. We spend quite a bit on bursaries and on further developing people already working in our organisation. Where I am a little unsure is how much we should spend on taking people abroad. We think that such exposure is important, but this can get extremely expensive. If we had more money, I would say¬ – in the spirit of South Korea – go out there and pursue higher degrees at MIT, Cambridge, Oxford and Harvard, stay there a while, and then come back three years, ten years, even fifteen years later.

BT: I think some of the economists ought to come and visit you! We don't appreciate the significance of the CSIR as part of our scientific and research capabilities.

SS: I think that would be very helpful. We can have a conversation and they can speak from their perspective. We can show them what we're doing and ask if they really think we are being silly. Why shouldn't we try to be players in these areas, in our part of the world? NA

EMPLOYMENT AND DIVERSITY IN THE CULTURAL AND CREATIVE INDUSTRIES IN SOUTH AFRICA

Jen Snowball

Jen Snowball is a professor of Economics at Rhodes University. She is also a Senior Research Fellow at the South African Cultural Observatory.

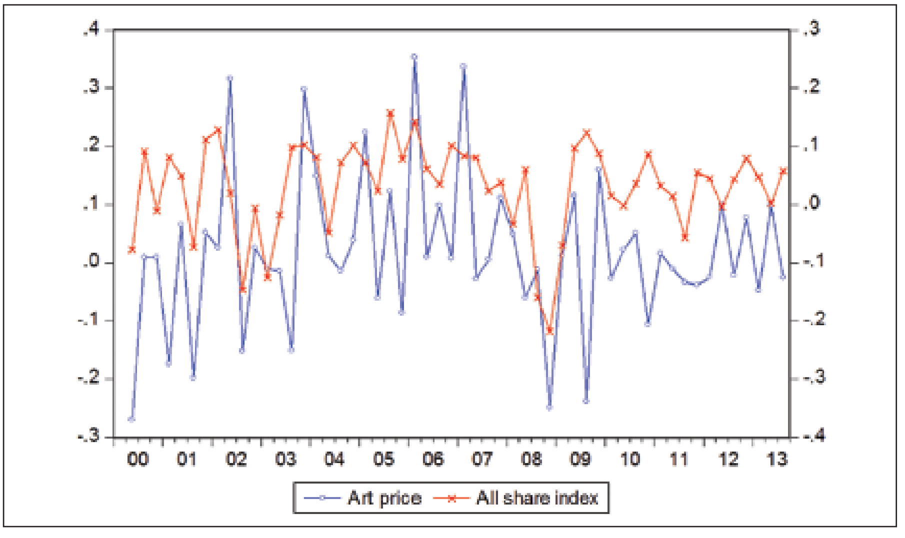
The publication of Richard Florida's (2002) *The Rise of the Creative Class* marked a growing international interest in the creative economy. There are several ways of understanding the creative economy, often divided into the cultural and creative industries. Cultural industries are those whose major outputs have some symbolic value, such as fine arts, film and craft, jewelry design, publishing and fashion. Creative industries are defined more broadly as those that have knowledge as their major input. In addition to cultural goods and services, these include things like software design and internet services. UNESCO (2009) provides guidelines for defining the cultural and creative industries and the ways in which they can be measured, but there is currently no international consensus. Nor is there likely to be, since different countries will have very different levels of involvement and focus that may shape what information is useful, for example, for shaping policy.

DO THE CCIS CREATE JOBS FOR ALL SECTORS OF SOCIETY?

Some international evidence suggests that the cultural and creative industries (CCIs) grow more quickly that the rest of the economy and can thus be potential employment creators and drivers in regional development. Some challenges also need to be taken into account. Production in the CCIs tends to be project-based, meaning that teams are assembled on a short-term contract basis for a particular project. Once the project is completed, the team is disbanded (Eikhof and Warhurst, 2013). The CCIs are also subject to volatile demand since many of the goods and services they produce could be considered luxury goods. While the CCIs can grow quickly in response to economic upturns, they also bear the brunt of the fall in demand in difficult economic times. International studies indicate that the growth rate of the sector is highly correlated with that of the general economy, but it is more volatile, responding strongly to both upturns and downturns.

In South Africa, a similar pattern emerges when the movements of the Citadel Art Price Index and the JSE All Share Index are compared (see Figure 1): art prices are highly correlated with share prices, with a lag of one quarter, and tend to be more volatile. »

Figure 1: Citadel Art Price Index and JSE All Share Index



Source: Botha, Scott and Snowball (2015)

The CCIs have also been advanced as a means to diversify the labour market and firm ownership. Since success depends on individual talent, perhaps more than on formal training or class-related advantages, the CCIs might be more inclusive of social groups that face a disadvantage in more traditional industries. However, studies in the UK have shown that, despite every effort to include people from a variety of socio-economic backgrounds, the cultural industries remain largely white and middle-class (Eikhof and Warhurst, 2013; Oakley, 2006; Siebert and Wilson, 2013). A recent US study also found that workers in the CCIs are much more likely to be from “affluent backgrounds”, especially in such sectors as publishing, advertising, music, performance and visual art (O’Brien, 2015). As O’Brien notes, these employment patterns have implications not only for the ability of the CCIs to create jobs, but also for the kinds of art and culture that reach the market.

A possible explanation for this is, again, the project-based nature of the work: networks and social capital are extremely important for access to productive teams, or to have work commissioned directly. Middle-class people who can draw on the social and financial capital of their parents and friends are more likely to be successful. Similarly, since productive teams tend to be composed of artists who know each other or who have been recommended by someone within the network, it is very difficult for new artistic producers, however talented, to break in (Eikhof and Warhurst, 2013; Siebert and Wilson, 2013).

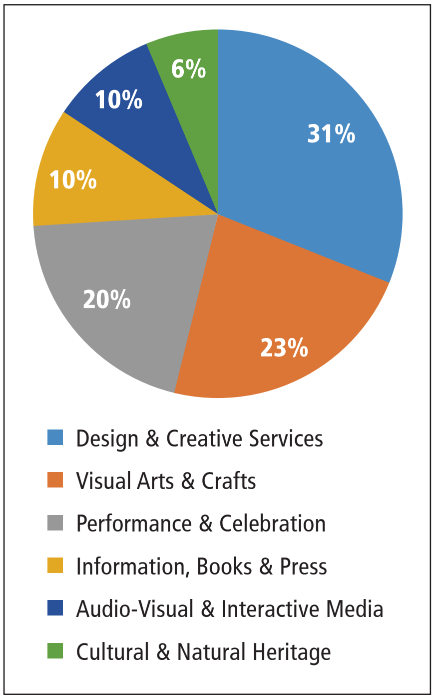
The short-term contract-based nature of much CCI work also means that few employers have the funds or incentive to provide formal training. This means that aspiring cultural workers have to cover the costs of their own training, which may be formal, through a course, diploma or degree programme, or informal, as an unpaid intern working in a CCI organisation to gain skills and experience. Contract work also means, as least initially, low and erratic earnings. Here again, middle-class people have the advantage of financial resources and family support during periods when they are not working. Working-class people may have to support themselves by taking on other low-skilled jobs, thus having less time to spend on their creative projects or build their networks (Eikhof and Warhurst, 2013; Siebert and Wilson, 2013).

The CCIs can also contribute to regional development. Since many CCIs do not depend on high-technology inputs or long supply chains, they may be ideal candidates for developing non-urban areas (Oakley, 2006). There are some successful examples of this in various countries, including South Africa, where artists have congregated outside of the usual industrial centres. This might be particularly important in South Africa, given the focus on rural development to alleviate high levels of poverty and unemployment. Indeed, a number of cultural products and industries have been established in rural areas with some success, such as the Midlands Meander in KwaZulu-Natal (Lourens, 2007) and the Keiskamma Arts Trust in the Eastern Cape (McKibbin et al., 2012).

CCI EMPLOYMENT CREATION IN SOUTH AFRICA

In 2014, the South African department of arts and culture (DAC, 2014) commissioned the research-consulting company Plus 94 to conduct a mapping study of the CCIs. Based on the UNESCO definition of cultural domains, the study included: cultural and natural heritage; performance and celebration; visual arts and crafts; information, books and press; audio-visual and interactive media; and design and creative services (see Figure 2). The study estimated that there are between 25 000 and 30 000 CCI organisations in South Africa. A random sample of more than 2500 of these organisations was then interviewed by telephone.

Figure 2: The distribution of CCIs by category



Source: DAC Mapping Study (2014)

The study found that the CCIs create between 162 809 and 192 410 jobs (1.08% to 1.28% of employment in South Africa) and contribute 3.15% to GDP. Organisations tend to be small, with more than a quarter (27%) having only one employee and a further third (34%) employing between 2 and 5 people. On average, the cost of labour accounts for about a third of the total production costs of CCI organisations.

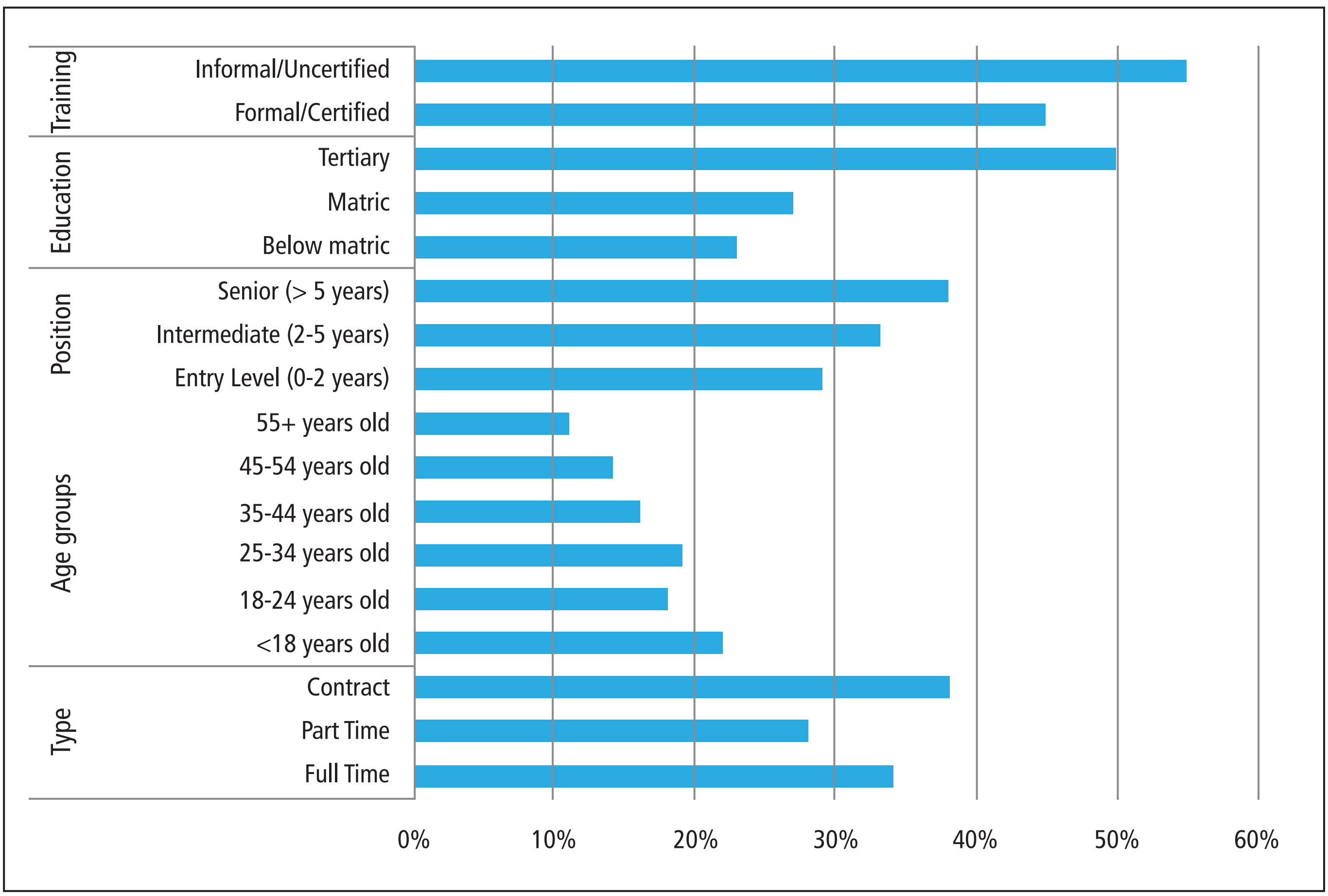
About a third of firms are registered as close corporations (other categories being non-profit organisations and private companies), but there is also a big group (22.1%) that are not registered at all – which precludes them from many funding opportunities. Still, the CCI sector is doing quite well in this regard: the FinScope (2010) survey of small businesses in South Africa showed that only 17.3% were registered companies.

Fifty-two percent of firms are owned by black people, showing the sector's potential to contribute to the transformation agenda. However, black ownership is higher amongst unregistered organisation (75%), emphasising the importance of sector business registration if the CCIs are to contribute sustainably to transformation. The majority of entities are owned by men (60%), but female ownership is higher in some provinces (57% in KwaZulu-Natal and 60% in the Eastern Cape).

In terms of the characteristics of employees in the CCIs, the proportion of women and men was about equal, and more than three-quarters (77%) were from black, coloured or Indian race groups. Most employment in the CCIs is on a contract basis (38%) or part-time (28%), with a minority (34%) employed fulltime (see Figure 3). Given the very severe youth unemployment in South Africa, the CCIs may be particularly important for job creation in this group: nearly 60% of employees are younger than 34. The majority of jobs are either at entry (less than 2 years of employment) or intermediate (2–5 years) levels (29% and 33% respectively). Only about half of CCI employees had tertiary education qualifications (beyond completing matric). Of those who had sector specific training, the majority had informal or uncertified training (55%).

A case study of the effectiveness of subsidies given to the South African film industry between 2009 and 2011 (Collins and Snowball, 2015) showed that, while subsidised projects were highly successful in terms of encouraging economic growth and job creation, they were less effective in transforming the industry and in skills development. Although they met the broad-based black economic empowerment (BBBEE) requirements, the percentage of black people employed in creative or ownership positions was small. Citing the issues »

Figure 3: Employee characteristics in the CCIs



Source: Adapted from DAC Mapping Study (2014) raised above, one key informant, the managing director of a film and television production company, stated that, until the film industry was doing well enough to offer continuous employment, it would only be those "from wealthy, mostly white, families who can afford to go to film school, given the risk of being frequently unemployed afterwards" (Collins and Snowball, 2015).

The DAC study also investigated the geographic location of CCI organisations. Without going into detail, the clustering of CCI organisations around the large cities is immediately obvious. This is not surprising, given that the primary market for two-thirds of CCI organisations is the general public of South Africa, other South African firms (12.7%) or the public sector (17.5%). Less than 20% sell any products or services internationally. It thus makes sense for them to be located near populous cities where their main markets are found. While there are some successful examples of CCIs driving rural development, the sustainability of CCIs in rural areas is likely to be challenging.


Prof. Jen Snowball

CONCLUSIONS AND RECOMMENDATIONS

The cultural and creative industries have great potential to preserve and develop the cultural capital of South Africa, create jobs, and contribute to social cohesion. The data show that they are already playing an important role in providing a labour-market entry point for young workers from diverse social and economic backgrounds.

However, the CCIs will need some sector-specific support to realise their potential, particularly to encourage the participation of working-class people. Successful initiatives can be adapted from international experience. For example, the UK has had some success in breaking down the "barriers to entry" by building formal and semi-formal industry support networks for young cultural entrepreneurs that lead to commercial ventures and collaboration (Oakley, 2016).

The Argentinian Cultural Observatory set up enormously successful annual meetings between cultural producers and potential buyers. Using an innovative format based on "speed dating", they have helped cultural entrepreneurs to market and sell their products to wider audiences.

For many firms, as discussed above, it is not feasible to invest in staff training. In South Africa, a more realistic alternative could be funded short courses with direct industry-specific relevance provided through the sector education and training authority (SETA). Proper accreditation of such courses is vital. Only industry-recognised qualifications will create a viable way to build human capital and feed into career advancement. NA

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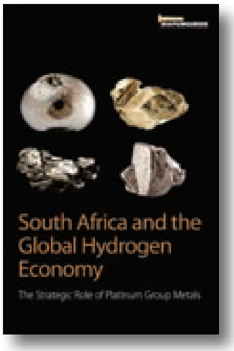
south african cultural observatory



South Africa and the Global Hydrogen Economy:

The Strategic Role of Platinum Group Metals

Mapungubwe Institute for Strategic Reflection (MISTRA)
Johannesburg: Real African Publishers, 2013. 400 pp

Reviewed by ***Anton M Pillay*** *(Vaal University of Technology) and* ***Joy K Ntuli*** *(Sibanye Gold)*

The Spaniards first encountered *platina* (little silver) in their South American conquests, regarding it as an unwanted impurity in the silver they were mining. Centuries later, platinum – now worth more than gold – is recognised as a metal that is capable of revolutionising economies and turning the SADC region into an industrial hub. Unfortunately, the exploitation of platinum group metals (PGMs) in regards to the hydrogen economy "remains a largely unrealised ambition", even though South Africa has over two-thirds of the world's proven platinum reserves. This situation is at the heart of *South Africa and the Global Hydrogen Economy* by the Mapungubwe Institute for Strategic Relations.

The book explores the strategic opportunities available for South Africa and their impact for supporting growth. As its title suggests, it specifically explores the hydrogen economy: that is, the role of platinum in fuel cells for the production of hydrogen. This innovation would both lessen our dependence on fossil-fuel energy and position South Africa and the region as a significant site for downstream PGM-based industries and services. As the hydrogen economy grows, the demand for PGMs and fuel cells will take off, and so will the demand for capabilities to recycle the largely non-perishable minerals.

The South African government intends to supply approximately 25 percent of global platinum-based fuel cells by 2020. While the target seems ambitious, given that the figure currently stands at 14 percent, the book provides a variety of interventions required to plan appropriately to ride the crest of the wave.

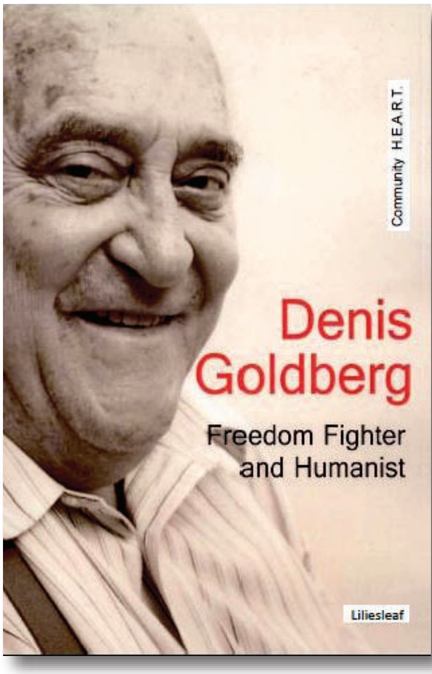
The book also explores political power dynamics, exploring South Africa's relationship with the second-largest producer of platinum, Russia, and other world powers like India and China. The chapters analyse the potent mix of geo-political issues relating to global security of supply, PGM trading arrangements that minimise disruptive price volatility, and social stability within the mining communities and South Africa at large. The last two chapters are dedicated solely to fostering sustainability and sustainable development via the forging of mutual strategic interests of the mining corporations, government, workers and communities. Sustainable development is believed to be the mechanism by which economic sustainability is achieved. Extremely detailed, the chapters ask tackle difficult questions, such as what happens to mineworkers and communities when PGM mines close.

The research covers explorations, assessments, interrogations and investigations of vital aspects of PGM and the hydrogen economy. Various strategies are provided for South Africa to effect a migration from fossil fuels to hydrogen. However, there is a lack of criticism of the project. The current volatile situation of the mining industry is overlooked, and it is important to note that the hydrogen economy is not necessarily the "miracle" the region is waiting for.

South Africa is already suffering from ongoing electricity and water crises, which further compounds the misery of an industry that heavily relies on these two factors. Furthermore, there is a recurring assumption of heavy market demand for PGMs. But in 2014, the five-month strike reduced platinum prices by 80 percent. Also, what is to say that mechanised mining will take over from human labour?

A hydrogen-based economy could mitigate greenhouse gases, but other topics are left waning. More analysis could have been given to the environmental repercussions of extensive platinum mining and of hydrogen production.

In view of the opportunity provided by rising costs of energy, and the need to enhance the capacity of the country's energy system, experimenting with platinum-based fuel cells could lead to surprising outcomes in terms of meeting the country's energy policy objectives and support economic growth while reducing environmental emissions. *South Africa and the Global Hydrogen Economy* offers an essential discussion of the new emerging trends for platinum. NA



Denis Goldberg:

Freedom Fighter and Humanist

David Kenvyn (ed.), Pat Turnbull (trans.)
Community HEART: Manchester, 2014. 209 pp

Reviewed by ***Howard Smith***

This collection of essays was first published in German in 2012 to honour Denis Goldberg on the occasion of his eightieth birthday.

Denis Goldberg was isolated for over twenty years in Pretoria Local Prison, under conditions that were designed to break his spirit and commitment. That they failed to do so is demonstrated in this record of his lifelong contribution to a better South Africa. The contributors – who knew him before, during and since that most difficult period of his life – all pay tribute to the commitment, values and hope that make Denis the *mensch* that he is.

The opening essay is a summary of South Africa's history to contextualise the personal accounts that follow. Essays by Pallo Jordan, who knew Denis as a political activist in the Modern Youth Movement in Cape Town in the 1950s, and Sandile Njake, who was an Umkhonto we Sizwe (MK) trainee at the Mamre camp outside Cape Town where Denis was a trainer, provide useful information on lesser-known aspects of our struggle. Jeremy Cronin writes of the Denis he knew as a fellow prisoner. Hillary Hamburger writes of her many visits to him in prison and contributes to a better understanding of Denis's negotiated release in 1985. Those for whom this episode still arouses feelings of bitterness would benefit from her balanced perspective on the multiple dimensions of struggle and how new avenues for struggle and commitment can always be opened up. Denis's role after 1985 demonstrates Gramsci's idea of a "war of position" so well.

The majority of the essays are by people who came to respect and love Denis after he resumed active work for the movement. English, Scottish, Dutch, Swedish and German friends write of his influence on their lives and activities in the anti-apartheid struggle. Denis was an ambassador-at-large for the ANC, speaking to organisations across Europe and developing the practical commitment of those who wished to do "something to help the struggle". Their rich accounts of Denis's values and commitment, creativity and imagination, warmth and humour, and affinity with and influence on young people, affirm the lasting value of Denis's work then and since.

The book concludes with a few tributes from people working in South Africa on projects that benefit from Denis's personal commitment. Central to this is Community H.E.A.R.T., which was founded after 1994 to contribute to South African society's post-apartheid development. Anyone wanting to feel the pulse of support for development should read this book. It pays tribute not just to Denis but to what is best in humanity: its solidarity. In these pages, they merge into one. NA

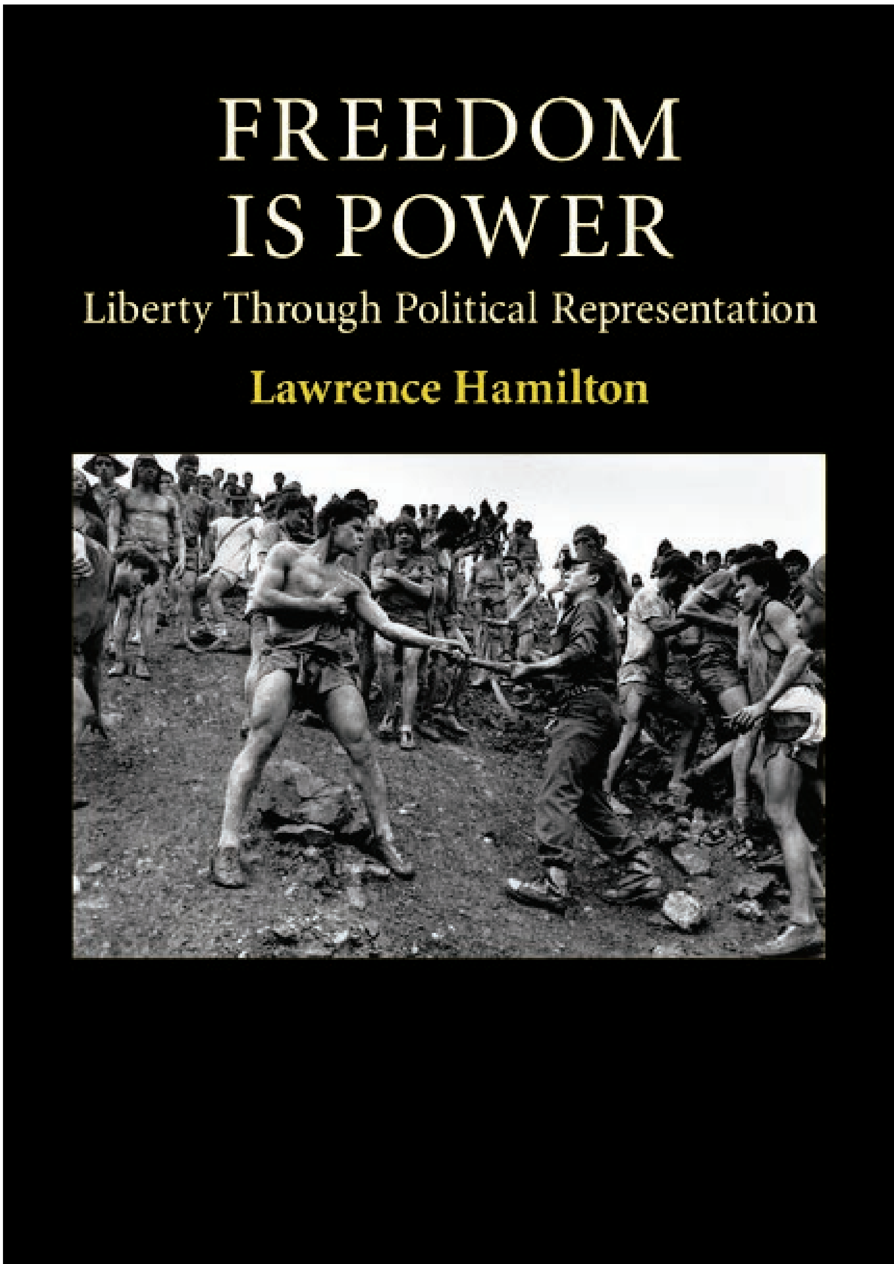
Freedom is Power:

Liberty through Political Representation

Lawrence Hamilton

Cambridge: Cambridge University Press, 2014. 231 pp

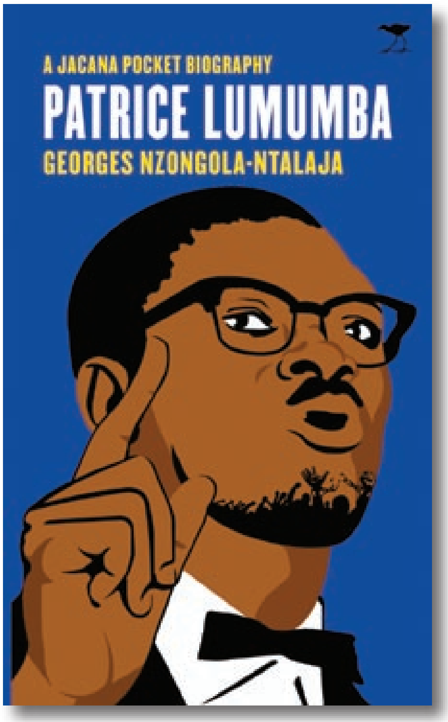
Reviewed by ***Ndwakhulu Tshishonga*** *(UKZN, School of Built Environment & Development Studies)*



Freedom is Power questions whether South Africa is finally free twenty years after apartheid was dismantled. Hamilton uses political theory and analyses from other contexts, such Brazil, the United States of America, the United Kingdom and the global economic crisis which still haunts the world. Although the book is motivated by the situation in South Africa, it offers a framework for questions about freedom in other countries as well.

Hamilton manages to provide a convincing argument that power has a symbiotic relationship with freedom: freedom relies on power and emancipation for all can only be upheld if regarded as power through political representation. He applies democratic theory to underscore the view that contemporary freedom can be gained through inclusive representative and participative approaches, which can both reduce domination by the powerful and empower the marginalised. The book demonstrates the importance of inclusivity in all spheres of politics; oftentimes those elected to represent the majority tend to exclude their inputs.

The book is beautifully written in clear language and informative especially for those interested in democracy and the value of participative democracy. It is invaluable to academics and students and I highly recommend it for a university-level reader in subjects such as politics, history and citizenship, and for all those interested in South African democracy and freedom. NA



Patrice Lumumba:

A Jacana Pocket Biography

Georges Nzongola-Ntalaja

Auckland Park: Jacana, 2014. 164 pp

Reviewed by ***Sivalingum Rungan*** *(School of Mining Engineering, University of the Witwatersrand)*

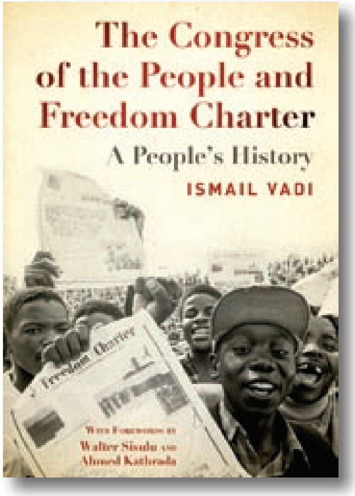
Patrice Lumumba evokes strong reactions, either of admiration or intense dislike, a figure who was seen either as divisive or as a unifier. To this day, conspiracy theories abound as regards his assassination and the complicity of western interests. Clarifying many of the issues, this book is more importantly a frank discussion of the circumstances of Lumumba's life and death and the involvement of the United States, Belgium and the United Nations, the moderates and political opponents of Lumumba, business interests, even the mining industry in South Africa that conspired to have Lumumba "removed".

Nzongola-Ntalaja's admiration for Lumumba is clear from the beginning and readers are accordingly made aware that this factual account will be peppered with personal opinions and comments. It makes for some trying reading in places, yet this is one of the book's greatest strengths as it highlights the emotions that Lumumba evokes, then and now. It also situates a unique interpretation of the circumstances in which the Congolese found themselves at that time.

The book chronicles Lumumba's birth, his brief schooling, his employment in the public and private sector, and his political journey in search of independence for the Congo. It was surprising to learn that Lumumba actually – and successfully – tried to become part of the evolues (the Congolese elite). and even sought "matriculation", gaining status as a privileged Congolese, similar in certain respects to the Belgians in the Congo. It also highlights the change of his vision of a Congo where Belgians and Congolese could live together to one of full independence for all Congolese.

The writer goes out of his way to provide an explanation for some of Lumumba's less stellar actions, such as stealing from the post office and his engagement with the Soviet Union. Be that as it may, with a limited education and a desire to learn more and do more, Lumumba rose up the ranks of various representative organisations to eventually become a representative of the Congolese people in their struggle for independence. While Lumumba might have had the majority support, one that transcended tribal and geographical differences, it was very clear that the chips were stacked against him. It was interesting to read of the impact of the cold war on the Congo. According to the writer, the US and the UN developed an anti-Lumumba attitude due to his close connection with the Soviets. While it is not clear whether he was pro-American or pro-Soviet, his call for assistance from the Soviets to help enforce a UN resolution resulted in belligerence from the UN.

This is a must-read for South Africans, particularly because it highlights the actions taken by colonial powers to remain in power in Africa, the impact of such actions, and how complicity can lead to very dangerous outcomes. This has major lessons for the South Africa of today. The book makes one appreciate our democracy even more and perhaps would inspire readers to relook at the present state of our country and make the right decisions. NA



The Congress of the People and Freedom Charter:

A People's History

Ismail Vadi

Jacana Media: Auckland Park, 2015. 179pp

Reviewed by ***Howard Smith***

Published in 2015 to coincide with the 60th Anniversary of the Congress of the People, Ismail Vadi's account of this historic event, the campaign that preceded it, and the Freedom Charter it produced is a valuable addition. Though containing little unique material, its value lies in the reflective descriptions of the forces that worked for its success – including the ANC, the Indian Congresses (Transvaal and Natal), the Coloured People's Organisation, the Congress of Democrats and the South African Congress of Trade Unions, together with organisations outside the Congress Alliance such as Liberal Party, the National Peace Council and newly founded Federation of South African Women (FEDSAW).

The strengths and weaknesses of the campaign for the Congress of the People are thoroughly assessed by region and social sector, along with its impact in rural areas, on the reviving trade union sector and among women. Its role in the development of the Congress organisations and their alliance receives particular attention. While the more feminist aspects of women's demands were not pursued, the socio-economic needs of women were canvassed and their aspirations were reflected in the Freedom Charter. Vadi also attributes the inclusion of the clause "There Shall Be Peace and Friendship" to the participation of the National Peace Council.

Vadi also give useful attention to the ongoing debate about the socialist content of the Freedom Charter. Again the impact of forces engaged in the campaign – in this case, primarily the workers through trade unions – on the final document is assessed. As elsewhere, Vadi amplifies his assessment with both contemporary and more recent quotations. In this case, he includes Ben Turok's introduction of the economic clause, "The People Shall Share in the Country's Wealth", at Kliptown on 26 June 1955, along with Steve Tshwete's 1985 view that the Freedom Charter represents "the maximum (demands) for the bourgeoisie and the minimum for the working class. In other words, the bourgeoisie will not strive for more than is contained in the Charter, while the working class will have sufficient cause to aspire beyond its demands."

While this publication has value as an introduction to its subjects – the quotations from a number of organisations' contemporary minutes and reports are of great interest and later interviews with individuals who were key players at the time – it also has weaknesses which I attribute to the publisher. While there is an adequate bibliography accompanying this text, the reader would benefit from a list of selected further readings. It may seem to be a quibble to draw attention to the numerous errors of sentence construction, of fact (Ronald, not Roland, Press of SACTU), consistency (FEDSAW in the useful list of acronyms but FSAW in the footnotes) and of layout (asterisks identifying footnotes are so small as to be missed), they add up to a failure of rigorous editing. More serious is the disparity the reader has to accommodate between a 2015 publication that includes a 1995 Foreword by Walter Sisulu welcoming this history "on the 40th anniversary of the Freedom Charter" alongside Ahmed Kathrada's 2015 Foreword with similar appreciation "(in) the 60th Year of the Freedom Charter." Is this the first publication as Jacana claims? That the author's concluding chapter refers to the ANC government's 1994 Reconstruction and Development Programme but not later developments in that decade and since suggests that this history sat unpublished for almost twenty years before Jacana rushed into publication with only a commissioned second foreword and no opportunity for the concluding chapter to be updated. The reader deserves a publication that is transparent about its genesis and that is up to date in its conclusions at the year of publication. NA

Department of Science and Technology
Budget Guide for the 2016/17 Financial Year

Strategic overview

The National Development Plan recognises the crucial importance of science, technology and innovation in accelerating South Africa's socio-economic development. To make South Africa a more globally competitive economy, both government and industry will need to scale up innovation radically.

The National Development Plan also recognises that advances in technological innovation, the production of new knowledge, the application of knowledge and research collaboration are vital for a thriving economy.

It is in this context that the Department undertook its planning for the 2016/17 financial year. The strategic outcome-orientated goals expressed in its 2015-2020 Strategic Plan are aligned to the National Development Plan and government priorities set out in the Medium Term Strategic Framework, the New Growth Path, the Industrial Policy Action Plan and the Nine-Point Plan.

Science, technology and innovation, along with water, transport, infrastructure and information and communication technologies, cut across the Nine-Point Plan. The Department steers the national system of innovation to contribute to specific areas of this plan. Examples are the revitalisation of the agriculture and agroprocessing value chain; increasing the impact of the Industrial Policy Action Plan; the beneficiation of mineral wealth; unlocking the potential of small businesses, cooperatives, and rural and township enterprises; growing the oceans economy through Operation Phakisa; resolving the energy challenge by advancing alternative energy sources, and scaling up private-sector participation in research and development.

The Department has put in place several specific strategic interventions that are intended to increase the capacity and contribution of the national system of innovation to South Africa's economic growth.

With the budget for the 2016/17 financial year at R7,4 billion, the focus for this year identifies human capital development, knowledge generation, infrastructure, and global and African collaboration as priority focus areas over the Medium Term Expenditure Framework period.

The Department will continue to focus its investments on research and development, promoting innovation, and building the country's knowledge economy to improve productivity, health systems, education and infrastructure. This will include research infrastructure grants to researchers and institutions across the innovation value chain (e.g. for pilot plants, technology demonstrators and specialised facilities); the establishment of new technology service platforms, such as the bioinformatics service platform to service the life science sector; and agro-innovation hubs to connect researchers and rural communities.

Sustainable growth in South Africa will require a transformed and fully utilised human capital base. To this end, the Department will ensure that at least 80% of postgraduate students receiving support through the National Research Foundation (NRF) bursary programme are black, 55% are women and 4% are people with disabilities. Guidelines are in place to achieve this through the bursary and research support programmes, and the efficacy of these guidelines will be monitored and evaluated annually to ensure the realisation of these goals.

Nurturing the human capital pipeline requires that society appreciates the benefits science, technology and innovation can bring, and that learners and students are attracted to pursue careers in related fields. The Department's Science Engagement Framework provides an outline for the alignment of the efforts of all its entities and partners to maximise the impact of efforts to raise awareness. In the period ahead, the Department will be exploring the feasibility of establishing a flagship national institution to support science engagement and promotion.

Some key priorities in 2016/17

Government has set the target of raising gross expenditure on research and development to **1,5%** of GDP by 2019 from the current level of **0,73%**. Modelling exercises undertaken by the Department show that gradual investment is required to reach that target by 2019. The investment should come from both the public and private sectors, and the Department's contribution over the medium term will be **R13,2 billion**. This is budgeted for in the Research, Development and Support programme, and constitutes 58% of the Department's total expenditure.

R2,1 billion of this, or **16%**, is transferred to the National Research Foundation to ensure the completion of the Square Kilometre Array (SKA) demonstrator project. The SKA will be the world's largest and most sensitive radio telescope. Key economic benefits from this investment will be the leveraging of foreign direct investment from the SKA Organisation for construction and operational costs.

The National Development Plan acknowledges that economic growth is a longer term project and that the key role that innovation plays should increase incrementally. Over the medium term, the Department will focus on South African innovation for energy security, poverty alleviation and health care funded through the Technology Innovation programme, which is allocated **R3,2 billion**, or **14%** of the Department's total budget over the medium term period.

In line with the Intellectual Property Rights from Publicly Financed Research and Development Act, 2008, the Department will ensure greater economic and social returns from intellectual property generated from innovation activities using public funds. Through the National Intellectual Property Management Office, the Department will transfer **R90,1 million** over the medium term, including increased funding of **R75 million** over the period, to the National Intellectual Property Management Office, which ensures that publicly funded intellectual property is used to create products, processes and services that contribute to quality of life in South Africa.

The Department aims to position bio-innovation as a mechanism for achieving government's industrial and social development goals, guided by the Department's 2013 Bioeconomy Strategy. **R436 million**, budgeted for under the Technology Innovation programme, is allocated over the medium term for bio-innovation in the health, agricultural and industrial biotechnology sectors. In addition, **R45 million** over the medium term is transferred to the South African National Aids Council for HIV initiatives.

Expenditure financing

Funding is allocated to the DST by National Treasury as part of the Medium Term Expenditure Framework. For the 2016/17 financial year, the DST received **R7,4 billion**.

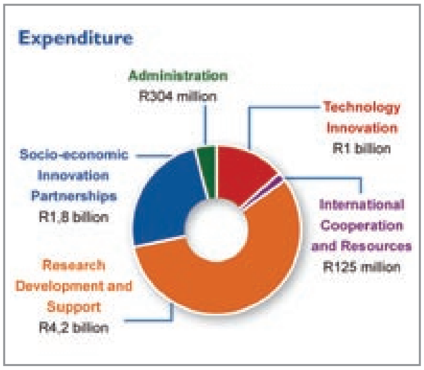
The table below shows the resources allocated to the DST over the 2016 Medium Term Expenditure Framework period:

Financial year	Budget (R billion)
2016/17	7,4
2017/18	7,6
2018/19	7,8

The Department also receives official development assistance from international partners through various funding instruments.

Functional classification of expenditure

The DST's total budget for the 2016/17 financial year is **R7,4 billion**. The chart below shows how this is divided between the Department's five main Programmes, which represent various core focus areas.



Research Development and Support receives an allocation of **R4,2 billion**. Among other things, the Programme aims to contribute to the development of demographically representative, high-level human capital by increasing the number of postgraduate research students awarded bursaries through the NRF to 42 396 over the medium term; ensure that South Africans have access to internationally comparable research and innovation infrastructure by maintaining the number of researchers awarded research infrastructure grants at 70 per year over the medium term, and by increasing the availability of bandwidth per South African National Research Network site from 3 500 Mbps in 2016/17 to 8 000 Mbps in 2018/19, which will assist in providing more efficient transmission of data to all research and academic institutions and national projects; support and promote research that develops basic sciences through the production of new knowledge and relevant training opportunities by maintaining the number of articles published by researchers funded by the National Research Foundation at 13 617 over the medium term, and by maintaining the number of articles published by researchers funded by the National Research Foundation and accredited by the Institute for Scientific Information at 21 000 over the medium term; strategically develop priority science areas in which South Africa has a competitive advantage by increasing the total number of MeerKAT antennas installed to 64 in 2016/17 and ensuring that a functional climate change research network is in place, with two reports on the state of climate change in South Africa approved by 2018/19.

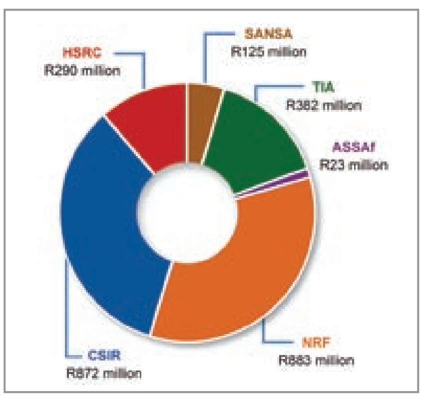
Socio-economic Innovation Partnerships receives **R1,8 billion** and will spend it on supporting the development of science and technology-based innovations for tackling poverty, including the creation of sustainable jobs and sustainable human settlements, and the enhanced delivery of basic services; providing policy, strategy and direction setting for the research and development-led growth of strategic sectors of the economy, and support for the transition to a green economy; leading and supporting the development of indicators and instruments for monitoring investments in science and technology and the performance of the national system of innovation, as well as ways of strengthening policy in relation to the system; and funding technology and innovation development programmes to advance strategic medium and long-term sustainable economic growth and sector development priorities, as well as public service delivery.

Technology Innovation receives an allocation of close to **R1 billion** to spend on leading, informing and influencing policy development in strategic focus areas; coordinating and supporting research and skills development in space science, renewable energy and the bioeconomy; and promoting the development, commercialisation and legal protection of scientific research and development outputs, processes and services. Some of these objectives are carried out through the Technology Innovation Agency and the National Intellectual Property Management Office.

Administration receives **R304 million** for the overall management of the Department and to ensure that organisations funded by the DST comply with the standards of good corporate governance and align their activities with the strategic focus of the national system of innovation.

International Cooperation and Resources receives an allocation of **R125 million** to use for increasing the flow of international resources into the country for science, technology and innovation-based socio-economic development; increasing the exposure of South African researchers and students to global knowledge and science, technology and innovation networks; contributing to the global science, technology and innovation discourse and policy through regional, continental and global initiatives; supporting capacity development in Africa to develop the continent's knowledge-based economy; and increasing the participation of South Africans in international human capital development opportunities.

Parliamentary grants for entities reporting to the Minister of Science and Technology



The **National Research Foundation** (R883 million) supports and promotes research through the funding of human resource development and the provision of facilities to enable the creation of knowledge, innovation and development in all fields of science and technology, including indigenous knowledge systems.

The **Council for Scientific and Industrial Research** (R872 million) to foster industrial and scientific development, particularly through multidisciplinary research and technological development, either by itself or in cooperation with public and private sector institutions.

The **Human Sciences Research Council** (R290 million) undertakes, promotes and coordinates policy-relevant, problem-oriented research in the human and social sciences, including research projects for public sector users, non-governmental organisations and international development agencies in partnership with researchers all over the world, but particularly in Africa.

The **Technology Innovation Agency** (R382 million) stimulates and intensifies technological innovation in order to improve economic growth and the quality of life of all South Africans. The agency is key in ensuring the translation of the research and development outcomes of higher education institutions, science councils and public entities into commercial technology products and services, thus intensifying the impact of innovation on the economy and society.

The **Academy of Science of South Africa** (R23 million) carries out its mandate of promoting common ground across all disciplines; promoting innovative and independent scientific thinking; promoting the optimum development of the intellectual capacity of all people; and providing effective advice and facilitating appropriate action in relation to the collective needs, opportunities and challenges of all South Africans.

The **South African National Space Agency** (R125 million) promotes the use of space and cooperation in space-related activities, while fostering research in space science, advancing scientific engineering through developing human capital, and providing support to industrial development in space technologies.

All of the above-mentioned DST entities implement departmental projects through project funding.

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