

CONSCIOUS OF CHANGE

Khotso Mokhele, formerly in charge of developing research in South Africa, talks to Michael Cherry about the role that science is playing in the nation's development.

It feels slightly odd meeting Khotso Mokhele in Paris, where he is attending an International Council for Science meeting. Usually we meet on African soil, but this year I am on sabbatical, and Mokhele, who is 51, stepped down in September after ten years at the helm of Africa's largest research funding agency, now known as the National Research Foundation (NRF) in South Africa. He seems quite at home, however, in the 16th *arrondissement*, domain of the city's diplomats and aristocrats. With the current resurgence of interest in Africa in the West, I wanted to hear his views on the role that science and technology are playing in the development of South Africa and the rest of the continent.

In 1992, the relatively unknown microbiologist was plucked from his department at the University of Cape Town to become the vice-president of the NRF's predecessor, the Foundation for Research Development. After serving a four-year apprenticeship he took over the reins from Reinhard Arndt. But he is the first to admit that his appointment was not a foregone conclusion. Mokhele is not a member of South Africa's ruling African National Congress (ANC) — and therefore not an obvious potential candidate to run a government agency. His tiny party, the Azanian People's Organisation (AZAPO), has strong roots in the black consciousness movement, a political philosophy born in the late 1960s that emphasizes the value of black identity.

Conflicting interests

During Mokhele's tenure, the research foundation extended its funding to social sciences and arts — it was formerly confined to the natural sciences and engineering. South African science has enjoyed mixed fortunes over the past 15 years: although spending on research and development (R&D) as a percentage of gross domestic product (GDP) has risen recently to 0.81%, it fell drastically in the nineties from a peak of 1.03% in 1991 to a low of 0.68% in 1997. But studentships and postdoctoral fellowships are worth less in real terms, making recruitment into R&D more difficult.

But what does Mokhele regard as his biggest achievement of the past decade? "We managed to retain quality as a cornerstone of the research enterprise," he replies, with very little hesitation. The South African science

community is mostly white, and Mokhele was pressed to boost the number of black scientists. "A research culture can die very quickly if you uncouple it from quality considerations. As a black South African, I would have been excused if I had addressed equity issues in a manner that resulted in the disappearance of quality."

This is undoubtedly true. Eight hundred thousand white South Africans — about 15% of the white population — have left the country over the past decade, citing inequality of opportunity as a contributing factor. Doctors, accountants, engineers, teachers, nurses — but very few researchers. This is something that could be regarded as a tribute to Mokhele's efforts: for example, the NRF awards grants to the best research projects, as well as providing incentives for black researchers.

"The crime is that 12 years after the advent of democracy, black education has made no strides, so we are still reliant on the white community for these skills," says Mokhele. "Whites may complain about affirmative action, but in reality they experience very little competition for jobs because of this lack of progress."

The seeds of his passion for education and valuing black identity were sown during his upbringing. Mokhele grew up in the township of Phahameng in Bloemfontein, capital of the Free State province. His mother ran a *shebeen* (an unlicensed pub) in their house from Thursday to Sunday. Her vocation had an unexpected

benefit: as a young boy, Mokhele became an expert brewer, using a paraffin tin in the backyard, ultimately inspiring his interest in microbiology. "I had the knack: when my brothers tried to do it, they got the temperature wrong."

Race relations

At the age of 16, Mokhele was sent to Moroka High, a mission school in Thaba Nchu in the eastern part of the province. His chemistry teacher suggested he apply to the University of Fort Hare in Alice, Eastern Cape province — alma mater of Nelson Mandela, Mangosuthu Buthelezi and Robert Mugabe — to study agriculture. "As a township boy, agriculture was the last subject I wanted to study," he laughs, "but I did it as a last option." By the end of his first year, he was hooked — not just on food science, but also on politics, as he had come under the influence of the black consciousness leader Steve Biko.

Biko lived in nearby King William's Town, and, although banned from Fort Hare by the university's reactionary administration, he frequently visited the adjacent Federal Theological Seminary, where in Mokhele's words: "We listened to him think aloud. There were also a lot of parties, and Biko would leave the dancefloor to write down his thoughts when he had a moment of inspiration."

At the end of his third year, Mokhele was expelled from Fort Hare for political activity.

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Identity politics:
Steve Biko's thoughts on black consciousness are at the heart of science policy in South Africa.



But like many adherents of black consciousness, Mokhele has a strong sense of his own destiny. Bikó's philosophy, in a nutshell, was that black people needed to develop their own sense of identity, rather than take their cue from white, Indian and mixed-race intellectuals who dominated the democratic movement at the time. "I wasn't going to let my expulsion determine my fate," Mokhele says. This self-assuredness is an attribute that has made him able to work effectively with both black and white communities.

Fort Hare agreed to readmit him to complete the degree and he left South Africa in 1979 for the University of California, Davis, where he completed master's and doctoral degrees. But in 1987, he returned to Fort Hare to a temporary lectureship. "It was a tough decision," says Mokhele, "as I felt very comfortable in the Afro-American community in the States."

Looking back over his tenure at the NRF, Mokhele says there isn't really anything he would have done differently, even the decisions that didn't turn out as well as he had hoped. He served, for example, as a facilitator for President Mbeki's controversial advisory panel set up in 2000 to investigate the link between HIV and AIDS. Many panel members were 'dissidents', set on proving that there was no link. No one envied Mokhele's task of trying to achieve even a measure of consensus between these dissidents and an enraged and alarmed group of orthodox scientists.

The planned experiments on which the panel had supposedly agreed were never concluded and Mokhele's critics felt he was left with egg on his face. "I had no alternative but to accept that job," he counters. "It could have played itself out in a way that would have saved us from the situation we are in now. It didn't, but this outcome

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NRF
was not obvious from the outset, and we failed there." South Africa is currently providing antiretroviral treatment to only 13% of its inhabitants requiring it, compared with more than 50% in neighbouring Botswana and Namibia, for example.

As for the future, Mokhele believes that South Africa should play to its strengths.

The country is known, for example, for its contributions to oceanography, astronomy, geology and ecology. "There is little point in the country making tiny contributions to the same fields of science that are currently fashionable in the West. We need to do two things: concentrate on areas where we have a natural advantage; and interpret what is going on elsewhere and adapt it to our specific needs," he says.

Continental shift

I turn to Africa as a continent — why has it fared so badly in comparison with other post-colonial societies? "Apart from Botswana, non-military democracy in Africa is very new. Africa is also the only continent where most children study in a language that they don't use when they play in the streets."

And what about the mooted concept of the African Science and Innovation Facility — could an Africa-wide research agency work, in reality? He's not sure: "There has been such a reluctance on the continent to establish national agencies for research funding, and it is the strong nations that stand to benefit from globalization. The only way that such an agency could work would be if beneficiary countries were obliged to spend a certain percentage of their GDP on research in order to qualify. If it's based just on hand-outs from the West, it is destined to fail."

Mokhele's career to date has benefited from his natural charm, political savvy and the odd measure of good luck. Robert Kriger, who worked closely with Mokhele at the NRF over this period, says that Mokhele's great strength "is his ability to get to the core of research issues — which reflects both his experience within the international science community, and his knowledge of the workings of its associated bureaucracies".

When asked about his own future, Mokhele describes himself as "being in retirement until such time as I decide what to do next". But he is not tempted to follow so many of his compatriots out of Africa, a position to which he remains unequivocally committed.

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