

ROY CHIHAKA



Zimbabwe's government must commit to science

As a new president takes office, scientists in the country and beyond should urge the administration to make science a priority, says Dexter Tagwireyi.

Zimbabwe's new minister of higher education, science and technology development, Amon Murwira, is a respected environmental scientist and a member of the Zimbabwe Academy of Sciences. So I am ever-more hopeful about the future of science in my country. Last month, I listened to the inauguration speech of our new president, Emmerson Mnangagwa. The week before that, the military had stepped in to confine then-president Robert Mugabe, and I took part in a solidarity march demanding that he renounce the office he had held since March 1980. Everyone — black, white, rich and poor — was united by the desire for a revamped Zimbabwe. As a young scientist here, I'm optimistic that better things are to come.

My colleagues are less sanguine. From them, I get a sense of hopeful scepticism. As one lab head at my university put it: "Still too early to get any meaningful pointers, but happy for the change of face." And that is from someone who has stayed in Zimbabwe. Estimates of people who moved abroad during the economic and political turmoil run as high as 4 million; the current population, according to the World Bank, is about 16 million.

So many scientists have left that a meeting was called in Johannesburg in September 2016 to discuss how expats could support Zimbabwean science. For my colleagues abroad, the same cautious approach prevails: they do not plan to come back until they are certain about the course that the country is taking.

I launched my research career in 2004, after graduating with a PhD in toxicology from the University of Zimbabwe in Harare. By that time, the economy had started to nosedive. Within 4 years, Zimbabwe had hit rock bottom, reaching an estimated month-on-month inflation rate of 80 billion per cent. During this period, we would go for months without a salary, and many of us had to find part-time employment. In my view, the only way from here is up.

Now is the time to strengthen scientific institutions. The Zimbabwe Academy of Sciences should lobby for legislation to ensure that the new government formally recognizes the organization and what it stands for. The government should also, as do progressive nations such as South Africa, allocate a certain percentage of its spending to research. The legislation to achieve these goals has already been written. Let's push it through while everyone is excited, and before other distractions crop up.

There is a lot of lost time to make up for. Although former president Mugabe's government often voiced enthusiasm for science, it created an environment that militated against it. Hyperinflation and economic collapse meant that few government resources were available for research or higher education.

Several times I was tempted to leave, but a profound feeling of rootedness to this troubled land kept me in place. As a boy, I developed a taste

for experiments by mashing up native plants, imagining I was inventing medicines. These daydreams weren't far from my current work as director of the University of Zimbabwe's School of Pharmacy, where I lead a natural-products research group. I explore the toxic and beneficial effects of *Boophone disticha*, a poisonous plant in the amaryllis family that grows across southern Africa and is used in traditional medicine.

Over the past decade, I have seen bright, eager young scientists come to my university, try to start a research programme and leave in frustration in less than a year. The skills required in a resource-limited environment are very different from those learnt by colleagues who trained abroad, where all the equipment needed is in one lab or department. In Zimbabwe, we have to develop excellent networking, public-relations and interpersonal skills to access equipment from other labs or institutions.

When I began my research, I would collect my plants, then dry them in my department, get them milled at the Faculty of Agriculture, further process them in the Faculty of Science and freeze-dry them in the Faculty of Veterinary Science — and then I'd take them more than 1,000 kilometres away to the University of Botswana in Gaborone to separate and identify the isolated compounds.

Zimbabwe has been excluded from many international funding and grant opportunities because of its instability, both real and perceived. The only way to access these funds has been to collaborate with scientists from other African countries, who did not always want to be associated with us. Just three months ago, some potential collaborators declined to begin a project with my group because of "too many bad experiences" with Zimbabwe over the past few years.

Even when my laboratory did scrape together the necessary funds, it could be difficult to purchase equipment because of sanctions. These were meant to be targeted against the government and specific individuals to reduce human-rights abuses and corruption, but they had a much broader effect. In the wake of President Mnangagwa's promises of free elections and anti-corruption moves, there has been talk of lifting sanctions. I hope this can happen quickly.

Thanks to the global nature of science, Zimbabwean researchers at home and abroad have an important part to play in nation-building, re-engaging the international community and creating an environment that will give investors — local and international — the confidence to do business in my country. Among other things, we need funds for research into economic and structural development. Just being able to apply for grants from international agencies would go a long way. ■

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