



How do publicly-funded institutions contribute to sustainable socio-economic development?

An NSTF/Science Councils and Statutory Bodies sector discussion forum

Concept Document

Introduction

The key question is: *How do research, development and innovation (RDI) in public sector institutions contribute to sustainable socio-economic growth in South Africa?*

South Africa has a variety of public research institutions that are members of the [National Science and Technology Forum \(NSTF\)](#). See [Current Members | Science Councils – Statutory Bodies – NSTF](#). These enable RDI in a broad range of disciplines and economic sectors. They report to a variety of government departments, and only some report directly to the Department of Science and Innovation (DSI). However, for all of them, part of their mandate is innovation, i.e. development of products and processes that can be commercialised or applied by the state to the benefit of the population. This discussion forum is organised by the NSTF in consultation with the sub-committee of the Science Councils and Statutory Bodies sector in NSTF. These representatives are passionate about their work on science and development in SA, particularly about sustainable development.

Event format:

The event will be held in hybrid form over two days, on the first day from 9:00 to 16:00; and on the second from 9:00 to 13:00.

The problem:

South Africa's economy is in a dire situation. Factors that have contributed to the current state of affairs include: corruption, crime, the COVID-19 pandemic 2020-2022, the riots of July 2021, persistent high crime rates, the electricity crisis, changes in import and export markets due to global events, and the poor performance of the Rand. Add to these the effects of climate change in the form of extreme weather events, notably droughts and floods. Poverty is severe and politics are turbulent. According to Statistics SA the official unemployment rate is 32,9% (The 16 May 2023 Quarterly Labour Force Survey (QLFS): "the number of employed persons increased by 258 000 to 16,2 million in the first quarter of 2023 compared to the fourth quarter of 2022). The social effects of the economic crisis are cumulative, leading to growing crime, poverty and domestic violence. Under these circumstances, it is hard for small businesses to be started and to survive, thereby killing the hope that small businesses will grow the economy and employment as envisaged by the National Development Plan (NDP).

Under these conditions it is tempting to cut research budgets. Over the past few years, the science and innovation budget has not increased to keep up with the CPI. Budget cuts in government mean that publicly funded research institutions experience budget cuts as well. Certain aspects contribute to the massive problems SA faces (just a broad outline of some major challenges):

- **Electricity crisis.** An ongoing crisis of insufficient electricity supply, with multiple problems that beset the transmission and distribution of power. There seems to be a consensus that the main reasons are corruption and lack of maintenance of infrastructure. Other serious problems include insufficient generation capacity and a failure to integrate renewable energy sources into the grid. The government is working on the transition from sole reliance on coal-fired power plants to bringing renewable energy sources on-stream, but this will take time.
- **Water crisis.** SA is a water-scarce country, meaning that our meagre water resources have to be utilised carefully and efficiently. Partly due to the electricity crisis, and partly due to lack of maintenance, the management of water distribution is experiencing severe challenges. Water purification works are in poor condition and require maintenance, leading to health-threatening situations when natural water bodies are contaminated. Provision of water and sanitation to the poor is sorely lagging behind.
- **Transport.** The railroad system has been neglected and deteriorated while companies prefer to transport their goods by road. This leads to road surfaces requiring more frequent re-surfacing which does not happen. Roads are increasingly congested and dangerous. Petrol and diesel prices have increased to such an extent that it is one of the major expenses of doing business.
- **Agriculture and food security.** The agriculture sector has taken a few knocks in recent years – severe drought, then the COVID-19 pandemic, ongoing criminal attacks and loadshedding. Problems with road infrastructure, the lack of a railway system and problems with SA's ports have further complicated agricultural and downstream operations.
- **Digital economy.** SA lags behind many countries in the development of its digital economy (otherwise known as the knowledge economy, or 4IR economy). This means that SA is not taking advantage of the developments in the digital space that could be leveraged for delivery of basic services by the state, improvement of people's lives and making a dramatic improvement in the education of SA's children and skills training for its adults. The electricity crisis affects SA's ability to make use of digital technologies to 'leapfrog' stages in the country's development.

Questions and considerations:

Scientists and related professionals from various disciplines and stakeholders are invited to participate in discussing the following questions or themes:

1. What work do the publicly funded research institutions in SA do to contribute to generating or improving industries in SA?
2. What do these research institutions in SA do to generate small businesses?
3. What do they do to contribute to sustainable development in SA?
4. What role do these institutions play in developing the skills pipeline essential for the above-mentioned areas?

Envisaged outcomes:

To formulate recommendations on ...

- a. Funding for public research institutions – what areas are in critical need of funding?
- b. What should the public and decision makers know about SA's publicly funded research institutions? i.e. what are the critical roles they play?

Outputs will be available on the event page of the NSTF website:

- Presentation slides (subject to the permission of the speakers)

- Speakers' biographies
- The recording/s of the online event
- A media release will be issued which summarises the most important issues and conclusions.

These will also be publicised on: social media platforms ([Facebook](#), [Instagram](#), [Twitter](#), [YouTube](#), [TikTok](#) and [LinkedIn](#)).

References:

[Publication | Statistics South Africa \(statssa.gov.za\)](#)