Background on biotechnology audits in South Africa

NACI: WORKSHOP ON A REVIEW OF THE PROGRESS AND PERFORMANCE OF THE BIOECONOMY SINCE 2014
2 February 2022

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

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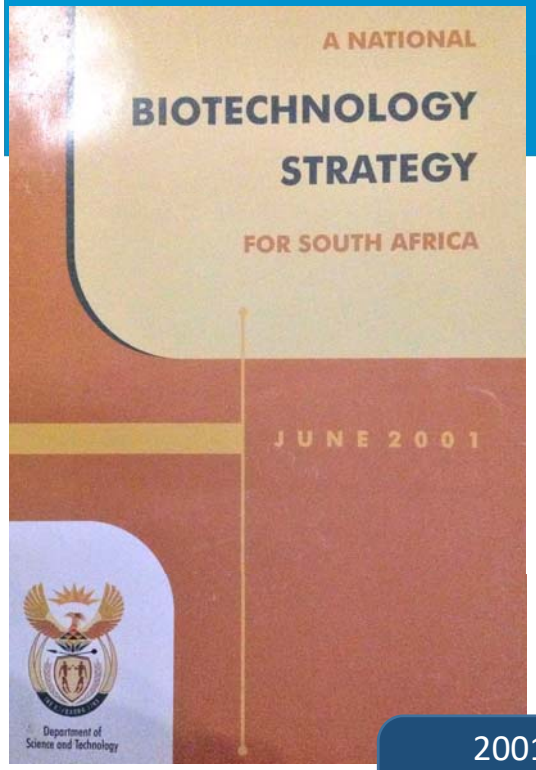


Policy Intents in a variety of dimensions

Grand Challenges:
- Bioeconomy
- Space Science
- Energy
- Global Change
- Human & Social Science

2019 – White Paper on Science, Technology and Innovation

2008 – Ten-Year Innovation Plan

2022 – Decadal Plan

2013- Bio-economy Strategy

2001 - Biotechnology Strategy

2002 – National Research and Development Strategy

- S&T for poverty reduction:
- Energy
- Water and Sanitation
- Food security

1996-White Paper on Science and Technology

Definitions:

NBtS: “a set of technologies including, but not confined to, tissue culture and recombinant DNA techniques, bioinformatics and genomics, proteomics and structural biology, and all other techniques employed for the genetic modification of living organisms, used to exploit and modify living organisms so as to produce new intellectual property, tools, goods, products and services.”

B-ES: **Bioeconomy** refers to activities that make use of bioinnovations, based on biological sources, materials and processes to generate sustainable economic, social and environmental development. In the bio-economy the entire innovation system/ network, ranging from ideas, research, development, productisation and manufacturing to commercialisation, should be used to its full potential in a coordinated manner.

Health Innovation
Agricultural bio-innovation
Industrial and Environmental Biotechnology
Indigenous Knowledge based Technology Innovation

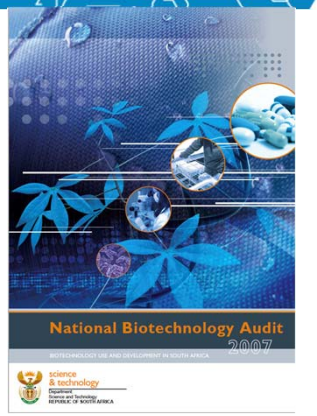
Audit Purpose

- **Benchmark**
- **Measure progress (and hence efficiencies)**
- **Identify challenges and opportunities**
- **Better understand the biotech landscape in SA**

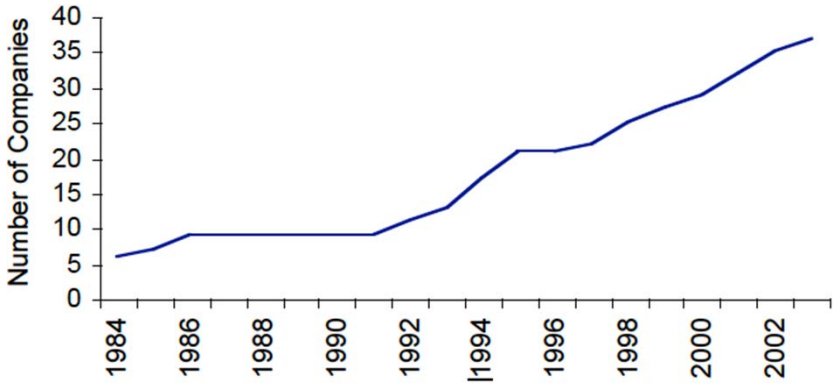
To inform strategic direction, instruments, activities and interventions

Biotech Audits

OECD: the Frascati and Oslo Manuals



- Email questionnaire 22% returns; of targeted co's, 50% agreed to interview
- Of targeted companies, 50% agreed to be interviewed;
- 106 companies participating in biotechnology activities;
- **47 core** and 59 non-core biotechnology companies/ organizations.



- Target (identified) companies – 241;
- Of those 78 companies were identified to fulfil the criteria as being biotechnology active firms;
- **38 core** and 40 non-core biotechnology companies;
- Problems vs benefits of biotech;
- Top Constraints: (1) Access to capital, (2) Time to reg. approval

SA Biotech / Bio-economy developments

- BRICS merge (+ others) to form TIA
- Bio-economy Strategy
- Skills audit
- NACI role evolved
- [DSI APP & Annual Reports; Decadal Plans; White Paper on STI; inter-departmental collaboration; international engagement; …]

etc

Revised approach to audits needed

1. More reliable and comparable means of obtaining data on the bioeconomy
2. Determinants more than merely numbers of biotech performing companies & technologies – looking at broader means of assessing socio-economic outcomes/ impacts, particularly in strategically important areas
3. Transformation agenda

SA Bioeconomy – a DSI perspective

- The DSI role in the Bioeconomy is RD&I INPUTS (- there are various other inputs to a bioeconomy).
- Strong focus on spin-outs & start-ups (-non or early revenue generating smme's).
- Biotechnology economic development elsewhere strongly features mergers & acquisitions (-is this relevant in SA, what is more appropriate for growth?).

Dankie

Enkosi

Ha khensa

Re a leboga

Gracias

Siyabonga

Siyathokoza

Asante

Merci

Thank you