

#### Conceptualisation, thoughts and emerging issues regarding the impact of research and innovation

Dr Sibusiso Manzini, WRC Research Symposium, Sandton, 12 September 2019

#### Outline

- More reports less understanding?
- An analysis of innovation indicators
- The South African Innovation Index
- The 2019 STI Indicators Report
- Uncalled-for criticism of indicators
- South Africa in 2019
- Concluding thoughts





SOUTH AFRICAN SCIENCE, TECHNOLOGY AND INNOVATION INDICATORS - 2015



# More reports – less understanding?











#### Measurement of Innovation in South Africa: An analysis of survey metrics and recommendations. 2015. *SAJS*, *Volume 111 Issue 11/12 (Pages 77-84*)

#### Measurement of innovation in South Africa: more than science and technology

A review of the control of schistosomiasis in South Africa

Housing sprawl near tailings storage facilities puts population at risk

Paper-based microfluidic devices for low-cost point-ofcare diagnostics

Conflating expression and meaning in the mortuary behaviour of *Homo naledi* 



#### SOUTH AFRICAN





#### PURPOSE

- Critique SA indicators
- Broaden perspectives on innovation
- Demonstrate the implications of a broader innovation perspective
- Propose new metrics for South Africa's NSI

#### Gaps & Shortcomings in Indicators

- Poor definition of non-technological innovation
- Emphasis on inputs rather than outputs
- Lack of regional and sectoral analysis
- Limited attention to innovation diffusion
- Subject to respondent interpretation
- Ignored the wider conditions of innovation
- No attention to linkages and learning

### Different types of innovation



Figure 1: An illustration of the overlapping types of innovation.

#### Proposed new indicators

- Social cohesion
- Social impact of innovations
- Innovation in the public sector

- Knowledge and technological intensity of manufactured goods
- Contribution to the manufacturing trade balance



• Participation in lifelong learning

# The South African Innovation Index



• Did it address the shortcomings?

# Numbers don't lie – or do they?

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- GERD 0.82%
- STI Human Capital ?
- Publications 350/mil
- Patents 38/mil
- Technology exports
- Human Development Index – 113/161

#### Blame it on the mirror

A growing chorus of uncalled-for criticisms

- "Indicators are decontextualized"
- "They don't take into account the roles of local institutions."
- "They advantage institutions in the developed world."
- "Indicators essentially seek to homogenise."

# Meanwhile, South Africa in 2019



### Who should we listen to?

- Ministers, DGs, CEOs, Annual Reports: "We are doing fine."
- How do we know whether investments in research and innovation are working for SA?
- Who should we hear from? Whose report should we trust?



# We cannot just do research, nje!

- Publicly funded research cannot ignore these realities: poverty, inequality and unemployment
- Private research with any sense of social justice or ethics ought to address these chronic national challenges
- We have to value our people including those who are skilled