A MISTRA Policy Brief

MAPUNGUBWE
INSTITUTE FOR STRATEGIC REFLECTION (MISTRA)

A research project by The Mapungubwe Institute for Strategic Reflection (MISTRA)

The Emergence of Systems of Innovation in South(ern) Africa: Long Histories and Contemporary Debates

What Does this Book Mean for the Science, Technology and Innovation Landscape?

MISTRA's new book on *Systems of Innovation in Southern Africa* arises out of research aimed at providing policy recommendations for enriching science, technology and innovation. The book offers a rare perspective on innovation in South Africa today; it addresses the existence, nature and evolution of systems of innovation, from the Middle Stone Age to the present, in our region. In so doing, it broadens our understanding of the current state of the South African system of innovation and the various possibilities it offers, including structural transformation. The book addresses questions such as:

- the effectiveness of past attempts at innovation in South Africa
- whether the National System of Innovation (NSI) needs to break decisively from the legacy of the past regime to realise the socio-economic transformation South Africa requires
- the impact of the broader socio-political environment on the system of innovation.

Key Approach

From the '50s, mainstream economic theory has recognised technological change as a major determinant of productivity improvements and economic growth. This approach has sought to incorporate technology into a dynamic theory of economics. A 'systems of innovation' approach offers an alternative discourse on the role of innovation in the economy, and this is the concept of innovation that underpins this book. The book utilises a **broad** notion of systems of innovation: it defines innovation as any alteration of the existing method of organising economic activity.

The Gaps in the OECD and South African Ministerial Reviews

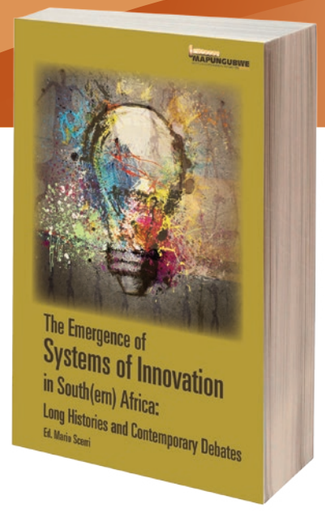
Two key documents have helped to define current South African policy:

1. The OECD (2007) review of the South African national system of innovation, and
2. The recommendations of the Ministerial Review of the South African STI Landscape (2012).

The book proposes that these policy-defining documents reflect a narrow version of the 'systems of innovation' approach. It argues that unless these weaknesses are addressed and the scope of the approach broadens, South Africa's STI policies will continue to be limited to minimal socio-economic transformation.

Policy Recommendations

1. Tailor the system of innovation to the needs of society as a whole. The relevance and utility of a system of innovation should be measured primarily by how it helps to solve problems of society as a whole and to improve the human condition. It is therefore necessary to tailor South Africa's system to the multitude of challenges that the country faces in terms of social needs such as housing, health, transport, poverty and inequality. This should be appropriately balanced against the advanced and even blue-sky research that the country has developed over the years.
2. Intensify the development of human capabilities at tertiary education level. Policy has not taken account of the need to address the whole of the education pipeline and to integrate provision for education and basic rights into a strategy for the long-term development of human capabilities. At the formulation level, the redress of the heritage of the apartheid education system was designed within a moderate neoliberal/neoclassical conceptual framework that advocates state intervention at the schooling level because of the externalities and public good nature of basic education. Unfortunately, within that framework, tertiary education is seen as a private good which, while state-subsidised, is based on costs largely borne by individuals and families.
3. Locate South Africa's NSI within broader regional and continental contexts. The South African national system of innovation evolved in the context of a colonial system characterised by permanent residence of the colonial settlers in the country. In that context, the country's economy and system of innovation were structured to serve the white minority, in the image of the metropolises of the developed North. In this context, within its neighbourhood, South Africa became a 'developed centre', with most other African national systems of innovation peripheral to and dependent on it. There are major implications of that power configuration for regional integration and development. While the country has played an important role in the development of a regional and continent-wide system of innovation, much more can be done.
4. Development of a database. Compiling records of the myriad informal innovations that continue to change the landscape of South Africa's social and economic activities will help with the monitoring and evaluation of the informal sector. The relevance of informal institutions is acknowledged in most of the literature on systems of innovation. However, the difficulty of measuring social practices, and their impact on society, means that this crucial area is often neglected. Initiatives that draw smaller enterprises into the informal sector and link them with modern, transforming sectors are crucial to South Africa's transformation process. Multidimensional solutions will be required to address the problem of youth unemployment in South Africa and to encourage sustainable entrepreneurship.
5. Shifting labour from policy periphery to policy centre. Policymakers should enable the thorough involvement of organised labour in formulating policy. Failure to do so further deepens the polarisation between the private sector and the state on one side, and labour on the other.
6. Ensure that the broad policy environment supports the system of innovation. The macroeconomic policies pursued by the state should deliberately support the system of innovation. In this context, the role of the state in providing leadership and in directing the allocation of national resources is fundamental. While the National Development Plan (2012) addresses some of these issues, it does not go far enough in defining a different macro-policy paradigm. In this regard, the role of the private sector needs to be clearly defined and a combination of incentives and other measures need to be used to ensure that this sector plays a bigger role.



The MISTRA book containing the research findings and detailed recommendations, entitled The Emergence of Systems of Innovation in South(ern) Africa: Long Histories and Contemporary Debates*, can be purchased from:* sales@mistra.co.za

To contact MISTRA

Tel: +27 11 518 0260 | **Fax:** +27 11 518 0266
Email: info@mistra.org.za | **Web:** www.mistra.org.za
Address: Cypress Place North, Woodmead Business Park,
142 Western Service Road, Woodmead, Johannesburg, 2191