Institutional restructuring in South Africa

Centralizing research management to influence policy and practice

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1 Context

The capacity to generate, translate, communicate, and use research evidence to improve public policies that impact quality of life remains weak or uneven across countries of the South, especially in Africa. More than 20 years into South Africa's democratic transition, there is an opportunity to learn from its experience, specifically the significance of changes in research policy. Following several rounds of institutional restructuring, there is a need to understand how the national system of innovation (NSI) contributed to national priorities and to identify systems and institutional constraints that hinder the use of research evidence in policy development. This in-depth analysis of South Africa holds potential relevance to the experiences of other countries of the South. Specifically the emergence of South–South cooperation has enabled emerging middle-income countries to collaborate with their peers to provide leadership and strategic direction on common challenges.

2 Empirical Approach and Main Findings

This investigation drew on both quantitative and qualitative data examining the influence of public science systems and research on national developmental agendas. There were six parts to this case study : research policy review ; analysis of actors within the NSI ; capacity of government to generate research evidence and knowledge ; outcomes and challenges of publicly funded research ; information and knowledge-management systems in the public sector ; and the state of policy-relevant research.

Research policy development — Research policy has evolved in South Africa since 1994 in the context of a transformation agenda that broke sharply with apartheid policies to construct a democratic, peaceful, and productive society underpinned by human rights and dignity. Prior to 1994, the role of science, technology, and research received little public debate. Breaking with this tradition, the government introduced a White Paper on Science and Technology in 1996 and in 2002, the national research and development strategy detailed how S&T should be funded and governed. This strategy led to the creation of a dedicated S&T ministry.

Although the need to position and strengthen R&D in the economy was recommended, and a 1% target of gross expenditure on R&D as a percentage of gross domestic product was agreed to, this target has not been met. There remains a funding gap between South Africa and countries with similar knowledge-driven economies. In addition, for South Africa to meet its economic and social goals, its NSI must focus on long-term objectives. Understanding South Africa's shifting social dynamics and the role of science in stimulating growth and development are important in these aspects. There are signs this is occurring. For example, the most recent National Development Plan called for increased R&D expenditure, improved partnership between government and the private sector, and a move from a resource economy to a knowledge economy.

National System of Innovation — The NSI concept is an inclusive framework of research and innovation agencies engaged in higher education, the private sector, government and non-governmental organizations (NGOs) as knowledge-generation actors. The functioning or performance of the system depends, among other factors, on how these actors promote coherent policy and work together.

South Africa examined international practices for supporting public science and nurturing a national system of innovation. The country is a competent player in the international field of research, science, and technology development. At the same time, research policy recognized that indigenous (or local) knowledge systems were integral to knowledge generation in South Africa. As such, two systems (science-based and local knowledge) inform policy development and application of knowledge in various spheres.

Extensive legislative and policy reforms over 20 years have changed the mandates of executive branch agencies. In addition to the creation of an S&T ministry, government-wide strategic planning, policy coordination and performance oversight was moved to the Department of Planning, Monitoring and Evaluation (DPME) in the Presidency. These agencies have responsibilities for policy direction, funding, coordination and performance assessments of South Africa's research system and NSI.

Performance of the NSI — The government led two formal performance reviews of the NSI. An OECD review in 2006–2007 found that the NSI was making an inadequate contribution to poverty reduction and that the knowledge infrastructure was underfunded. A Ministerial Review in 2011–2012 reported similar findings and highlighted the need for effective agenda setting and prioritization of the NSI. The review proposed the establishment of a National Council on Research and Innovation (NCRI)

to set the NSI agenda, oversee the system, and conduct high-level monitoring of its evolution, outcomes and impact. With the government becoming the largest funder of R&D activities since 2008, there are significant levers to shape the development agenda, improve value for money, and manage public research.

In sum, South Africa has a well-established research system and has developed research capacity, world class economic infrastructure and technology. Yet, these characteristics co-exist with the triple challenges of poverty, inequality, and unemployment as acknowledged in the recent Twenty Year Review of Government performance.

3 Main messages for policy and practice

The contribution and impact of research and other forms of evidence on developmental outcomes and societal progress is being questioned by both policymakers and the research community in South Africa. Several weaknesses have been identified in the NSI. The role of government needs to be defined and strengthened in this wider research system. There is a major gap in the generation of relevant research that informs how policies are translated into programs and interventions. Innovative methodologies are also needed to measure efficiency, effectiveness, contribution, and impact of research on the national developmental agenda.

New institutional arrangements need to be pursued — With the introduction of new structures of government and the restructuring of existing institutions, it is necessary to review roles and responsibilities to effectively implement research policy and manage knowledge. This defines the context within which evidence is promoted, generated, communicated, and used in government to influence policy. Institutional arrangements also include informal practices, which in turn shape research-policy interfaces and intergovernmental relationships. These feature have a bearing on research uptake, especially when knowledge is politically contested.

Build knowledge-management systems to influence evidence uptake — Effective knowledge-management systems are integral to well-functioning organizations in the public and private sectors. Knowledge products have become valuable assets within the knowledge economy. Empirical evidence suggests that several departments in South Africa have weak or nonexistence systems for managing knowledge. They also have poor analytical skills, which are further confounded by disconnected storage of research and other forms of evidence, constrained access, and poor dissemination practices.

Access to data and information is fundamental to any scientific inquiry. Generally, monitoring data are of poor quality within government. There is a need to access data derived from publicly funded research and to use this information in policy development. Access arrangements should promote explicit, formal institutional practices and should also be responsive to factors such as the characteristics of data, their potential value for research purposes, and the level of data processing. There is thus much work to be done on regulating and managing publicly funded research.

Inclusion of social innovation as a performance measure — Recent work on the measurement of innovation in South Africa has found that the current NSI

survey instruments do not adequately capture non-technological innovation. Social innovation is not captured by national surveys yet it contributes to social development and environmental sustainability. New methods and indicators need to be developed to measure social innovation.

Increase the supply of policy relevant research — Reviews of the NSI have questioned the extent to which policy-relevant research inform the development of national policies and priorities. The social sciences sector is underfunded in relative and absolute terms compared to other sciences yet it is important to understanding social systems (e.g., understanding of citizen views, behaviour changes, political economy, and power dynamics) and supporting policy development. Investments are needed to support methodological developments and capacities to undertake social research and on the public policy dimensions of social change. This field of work requires serious attention by both government and academic organizations.

Centralization of research management for policy influence — Where research policy is introduced to restructure and build state capacity and a functioning knowledge economy, as in the case of South Africa, there is a degree of centralization needed to coordinate, promote, and regulate public research. Five centralized responsibilities require attention by those implementing research policies : research standards and quality assurances ; innovation in policy research methodology ; agenda setting, networks, and partnerships ; knowledge management and brokering ; and capacity building. The way in which government carries out these functions can be an enabler in the functioning of a NSI and how research is taken up in the policy space.

Related Resources

Alessandro, M., Lafuente, M., and Santiso, C. 2013. *The role of center of government : a literature review.* Inter-American Development Bank. Technical Note : IDB-TN-581.

Lundvall, B.J., Johnson, B., Anderson, E.S., and Dalum, B. 2002. National systems of production, innovation and competence building. *Research Policy*, 31, 213–231.

Manzini, S.T. 2015. Measurement of innovation in South Africa : An analysis of survey metrics and recommendations. *South African Journal of Science*, 111, 11–12.