



THE ROLE OF SCIENCE TECHNOLOGY AND INNOVATION IN LOCAL ECONOMIC DEVELOPMENT

Lindile L. Ndabeni and Christian M. Rogerson

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1. Evolving Context of LED Planning

POLICY BRIEF

National economic development policies play an important role in promoting economic growth. However, such policies have failed to evenly distribute economic activities across space. Further, they have become increasingly inadequate to tackle development challenges of specific territories as national institutions are often too remote to respond to the rapid changes and needs of localities and regions. By contrast, local institutions can be more flexible as they are better positioned to interact with local actors and take advantage of local resources. That is, local economic development (LED) emerged as a viable way to overcome local development problems with the administrative unit chosen as the main scale for the delivery of LED.

Historically, the practice of national government resembles a decadal response to LED planning. The legislative and policy context for elevating LED to an obligatory mandate for all South African local authorities was recognized by the 1996 Constitution of the Republic of South Africa and subsequently consolidated in the 1998 White Paper on Local Government which established the notion of 'developmental local government' (Rogerson, 2008). The release of the national framework for LED in 2006 by Department of Provincial and Local Government provided definitive guidelines to local authorities for LED and was viewed as a major step in LED planning. The introduction of ILED in 2016 contributes to the formulation of new directions for LED planning.

2. Some Challenges in Existing Forms of LED Planning

A number of challenges can be identified in the existing forms of LED planning. One, the

limited success of LED projects with a predominantly social focus undermines the historical credibility and significance of LED. Two, there is mutual suspicion between the public and private sectors which makes dialogue between the two groups extremely

difficult. The inherent tensions between the two sectors are compounded by the need to transcend the apartheid legacy of a largely white owned and controlled private sector and predominantly black public sector (Rogerson, 2010). Three, the practice of LED planning in South Africa is that many local governments often view each local area as an insular economy and that the role of LED strategy is to develop this unit. This approach does not encourage LED officials to view their local economy in a way that is organically and irrevocably linked to the district, the province, the national economy, and indeed the global economy" (Van der Heijden, 2008:14). Four, for most small municipalities, it has not been always clear what their planning priorities should be and how they should go about promoting LED. In recent years a dominant view has emerged which emphasizes the promotion of competitiveness. Five, public sector representatives dominate the LED forums. However, the actual process of generating the LED strategies is undertaken by private consultants and consulting firms. This is due to the lack of capacity within the district municipalities (DM). Six, the minimal appreciation of the potential for agriculture to become a driver for rural industrialisation is a symptom of the broader global picture of limited agro-processing taking place in developing countries. Seven, the lack of visible locally manufactured products is a weakness of district economies. Eight, there is minimal interactions between the district municipalities and universities. Nine, an important limitation facing individuals and firms in South Africa's rural district municipalities is their limited access to external sources of knowledge. Finally, there is a complete oversight of STI in discussions about LED both nationally and in the municipalities.

3. Theoretical and Empirical Bases for Incorporating STI in LED Planning

21 years after South Africa's transition to a democratic state many of the country's development challenges remain unresolved.

Evidence exists that social and spatial inequalities remain deeply entrenched and that efforts to promote the growth of the national economy have seen little benefit accumulating to especially the country's marginalised regions. Indeed, the geography of the designated distressed areas of South Africa incorporates nearly all of the former rural Homelands areas. Spatially, the distressed areas cover all of Limpopo, most of KwaZulu-Natal and Eastern Cape and much of North West. In addition, parts of Northern Cape, Mpumalanga provinces as well as Free State province and the West Rand DM of Gauteng. In economic terms many (if not the majority) of the mainly rural distressed districts are remittance and welfare-dependent and include the most poverty-stricken, underdeveloped and most socially excluded and marginal zones of the country.

The adoption of the national system of innovation (NSI) as an organising framework for policy and action places science, technology and innovation (STI) at the centre of addressing major socio-economic challenges. Through its explicit attention to development outcomes, innovation systems offers a framework for analysing the roles of STI in unlocking the development potential that is embedded in DMs. These DMs remain economically backward with innovation activities sparsely distributed in these areas. This situation requires a rethink of how development problems can be addressed in these contexts and the need to identify new drivers of economic transformation. The challenge facing STI policy makers and researchers is to understand how innovation systems are organised in the DMs. By focusing on what problems are addressed by STI in these varied contexts, NSI interventions can have more transformational effects in the identified territories and sectors. The spatial dimension of innovation process is significant because the tacit knowledge found in various regions remains less mobile than capital and therefore provides the critical determinants of regional specialisation and innovation.

4. LIPS Methodology

The specific frame of this policy analysis is that a better understanding of the solutions that originate within the district systems of innovation constitutes a suitable approach towards sustainable and inclusive development. Likewise, local innovation and production systems (LIPS) (Cassiolato and Lastres, 2015) guided the empirical study. The five key elements of LIPS are:

- Establish the territorial boundaries of the investigation albeit recognise that the territory can be part of a broader system (sectoral, regional, national and global);
- Focus on the local production system in a particular territory and address each production system within its local, regional, national and international contexts;
- Emphasize that knowledge results from interactive learning processes;
- Focus on understanding how knowledge as a main source of sustainable competitiveness is acquired, used and diffused.

5. Research Process

Five case studies were selected to include both urban and rural areas. The major focus of the study was upon rural areas which constitute the largest spaces of despair and marginalization. The five selected case studies were drawn from KwaZulu-Natal, Eastern Cape and Mpumalanga Provinces which together contain 16 of South Africa's 27 District Municipalities in the distressed areas. The selected DM case studies were:

- uMkhanyakude and Harry Gwala in KwaZulu-Natal;
- OR Tambo and Alfred Nzo in Eastern Cape; and
- eHlanzeni in Mpumalanga.

The field work case studies were undertaken between October and December 2015. In total 26 in-depth stakeholder interviews were obtained. The interviews were conducted with LED directors, LED managers, CEOs and managers of development agencies. Some visits and interviews were also conducted with local innovators. In line with DST objectives fieldworkers included five postgraduate students undertaking innovation studies who engaged with the case studies and were mentored in this project as part of capacity building.

6. Innovation Systems of District Municipalities

The boundaries of the networks and activities that occur within the DMs define the boundaries of the district innovation systems. More specifically, the district innovation systems are characterised by heterogeneous actors such as the local and regional offices of the national and provincial departments, NGOs (such as Isibaya), science councils (such as the Agricultural Research Council or CSIR), national financing institutions (such as Industrial Development Corporation), local municipalities, business chambers, traditional authorities, local development agencies or as in the case of eHlanzeni an economic advisory council which acts as a think tank for the district municipality on LED planning, and private consulting firms.

The diversity of actors demonstrates the rich political, cultural, economic, and geographic spread that defines the nature and the boundaries of the district innovation systems. The innovation networks of the district innovation systems are more diverse than the usual definition of innovation networks which often identifies universities, research centres and business companies as the main actors (Corsaro et al., 2012). However, their situation still reflects a lack of effective formal and informal cooperation among specific innovation actors such as investors,

researchers, and public institutions that produce knowledge (Hajek et al., 2014).

What remains missing in the LED planning in the DMs is an explicit intention that seeks to improve the district economy by enhancing the innovation performance of the district as a system of innovation. The priority district innovation systems are characterised by specific productive sectors of agriculture, tourism and SMMEs. With their focus on tourism, agriculture and SMMEs these five select case studies thus typify the issues and focus areas for LED that have been identified in this project across the distressed areas as a whole. Ocean economy was also identified by uMkhanyakude, Alfred Nzo and O. R. Tambo District Municipalities.

Currently, the majority of firms in priority districts are informal and have low levels of knowledge intensity. The low levels of innovation and knowledge-intensive entrepreneurial activities deprive the district economies of economic benefits such as employment and economic growth (Hajek et al., 2014: 205). As argued by Links et al. (2014: 178) innovation in the informal economy “generally focus on the innovation activities of the poorer members of society” among whom the primary objective is an imperative “to solve local problems and challenges and thereby improve their livelihoods and standards of living”. Importantly, it must be recognised that innovations in the informal economy “are usually not part of any large programmes supported by actors within the NSI or other actors engaged in traditional R & D activities” (Links et al., 2014: 175). Overall, the socio-economic context of the district

innovation systems is characterised by poor application and exploitation of scientific knowledge as well as poor transfer of technology and scientific knowledge.

7. Summary and Way Forward

This analysis contributes to the generation of insights about the NSI in ways that advance our knowledge about the systems of innovation, shape new directions for policy development and inspire new forms of LED practice. At a broad level, DST interventions need to focus on strengthening district innovation systems in order to build strong district economies. Five areas of strategic intervention are recommended:

- Strengthen the role of innovation in advancing the development of agro and tourism value chains and expand innovation capabilities of innovation actors along the entire value-chains;
- Contribute to the economic transformation of DM economies by building innovation capabilities of firms through technology and knowledge transfer;
- Build competencies of LED planners in order to undertake innovative forms of LED planning;
- Clarify the LED planning priorities of DMs and provide guidelines on how DMs can go about promoting innovation-led LED;
- Introduce LIPS to encourage a common methodological approach to LED planning.

8. References

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