Placing the Spatial Data Infrastructure Act at the centre of creating a developmental state in South Africa

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Abstract

The purpose of this paper is to discuss the role of Spatial Data Infrastructure Act, 2003 (Act No. 54 of 2003) in supporting the spatial planning projects proposed by chapter eight of the National Development Plan vision 2030. The paper starts by briefly discussing South Africa’s historical imbalances created by the apartheid system, which necessitated a call by the government to adopt a National Development Plan in order to create a capable and a developmental South Africa where poverty is eliminated and inequality is reduced by the year 2030. The paper discusses the efforts undertaken by members of Geographical Information Science (GISc) community to develop a Spatial Data Infrastructure initiative in South Africa, the successes attained as well as the challenges that marred the implementation of the same initiative, thereof. The paper concludes by suggesting a possible way forward to improve the work of the Spatial Data Infrastructure initiative in line with the call made by the National Developmental Plan to create a national spatial framework as part of transforming human settlements.

Keywords

spatial data infrastructure, developmental state, geographical information science

Introduction

Take into cognisance the South African historical injustices of the past laws which were orchestrated by the apartheid regime to specifically advance the cause of racial segregation. The majority of South Africans, black people in particular, were dispossessed from their native land and placed in remote areas where there was no access to water and other basic necessities. In 1994, South Africa ushered a birth to a new, prosperous, non-racial, non-sexist and democratic society underpinned by universal suffrage. However, despite the countless intervening efforts made by the African National Congress (ANC) government since the advent of democracy to develop policies aimed at redressing the historical imbalances of the past, South Africa continues to face a myriad of socio-economic challenges, including poverty and inequality. These socio-economic ills continue to undermine the dignity of the very same victims of the past unjust system.

The relevance of the aforesaid narration in this paper needs to be justified in a scientific manner. This is only because the socio-economic problems facing the society at large have to be understood from a geographical perspective in some respect. The dispossession of black people in South Africa has a spatial phenomenon in it. In essence, the challenges of transforming human settlements in South Africa and other parts of the world have spatial bearing. Therefore, there is a need to improve the provision of basic necessities (i.e. education, health, sanitation, and housing), and increase industrialisation in order to improve the lives of the people.

In the majority of instances, it has become a phenomenon that when services are being rendered to the citizens, there is element of uneven distribution. The fact that the majority of black people in South Africa are displaced in the rural periphery where there is little or completely no economic viability in terms of growth, presents another spatial dimension that need to be understood and solved by government. This is only because, instead of having people from rural areas staying and working to improve their own areas, the resultant effect rather, is the exodus of such people (some with scarce skills) to areas of high employment opportunities such as Pretoria and Johannesburg. This migration phenomenon creates population pressure within the host cities resulting in adverse environmental consequences.

The ANC government has recently adopted the National Development Plan (NDP), which aims to eliminate poverty and reduce inequality by 2030. The NDP calls for South Africa to work towards achieving a developmental state. A developmental state is characterised by having a long-term coordinated developmental plan which aims to improve economic growth to poverty. The concept “developmental state” will be discussed in the forthcoming section.

Spatial data infrastructure (SDI), however, can best be described as a means of providing “a framework of standards, policies, data, procedures, and technology to support the effective coordination and sharing of spatial information among a community of stakeholders” (Abu Dhabi Spatial Data Infrastructure, 2013). Chapter 8 of the NDP calls for strengthening the SDI in support of the development of national spatial framework (NDP,
This paper will highlight the SDI initiative in South Africa and the role to be played in the realisation of NDP 2030’s vision.

**Contextualising South Africa as a developmental state**

Since it was highlighted in the introduction, there is a need to understand the concept of the “developmental state”, and then critically pinpoint areas of attention within the NDP, which could effectively and sagaciously be solved by placing the spatial data infrastructure in the center of driving the developmental agenda. Since the paper is in line with the Geographical Information Science (GISc) role in the society, particularly the SDI, it is prudent not to dwell much on the crux of the concept “developmental state”. However, in order to provide justice to the readers of this paper particularly the GISc professionals whom are predominately technical in nature, it will be beneficial to briefly discuss the basic principles relating to the meaning of the concept “developmental state”.

Tshishonga and de Vries (2011) argue that “since the emergence of the developmental state as a model to deal with socio-economic challenges, the concept has warranted both social and political scientists to explore the nature, scope and role of a state that is developmentally orientated.” Both further argue that the developmental state is now plagued with a myriad of definitions and concepts attached to it (Tshishonga et al, 2011). Many definitions relating to the subject matter in question can be found in literature, but a closer inspection reveals that, in short, there is agreement on the fundamental principles of the concept. The primary aim of the developmental state is the promotion and achievement of economic development by building viable institutions that guarantee such growth. (Tshishonga et al, 2011).

Kuye and Sheoraj (2012) argue that “developmental states generally put strong emphasis on technical education and the development of numeracy and computer skills within the population”. To provide capacity on government structures particularly the bureaucracy, the technical orientated education should strategically be used (Kuye et al, 2011). The emphasis of developmental state should be on market share over profit. Industrialisation is a vital driver of creating a developmental state. In this regard, it is argued that the country should produce goods and products with high added values. Instead of having the country exporting minerals unprocessed, there should be an appointment of local people to beneficiate such minerals and manufacture goods such as watches and thus add economic value to the final product (Kuye et al, 2011).

Van Dijk and Croucamp (2007) define the developmental state as “a state where politics have assured that power, autonomy, and capacity is centralised in order to achieve explicit developmental goals”. The focus of the developmental state should primarily be on either directing or enabling economic growth (Taylor, 2007). It remains government’s responsibility to create the developmental state (van Dijk et al 2007). There are six major components that define the developmental state (Van Dijk et al, 2007), including:

- A determined developmental elite
- Relative autonomy
- A powerful, competent and insulated bureaucracy
- A week and subordinate civil society
- The effective management of non-state economic interests
- Legitimacy and performance

*The National Development Plan: Vision 2030*

In 2011, the South African government has developed the NDP vision 2030 through a National Planning Commission. The document has been adopted as a government wide plan that aims to end poverty and reduce inequality by the year 2030. There is a call for government, society, organised labour and the business (private sector) to work together in building capable and developmental state. Given the complexities of the NDP, the plan sets out six interlinked priorities as follows (NDP Executive Summary, 2011:16):

- Uniting all South Africans around a common programme to achieve prosperity and equity.
- Promoting active citizenry to strengthen development, democracy and accountability.
- Bringing about faster economic growth, higher investment and greater labour absorption.
- Focusing on key capabilities of people and the state.
• Building capable and developmental state.

• Encouraging strong leadership throughout society to work together to solve problems.

The NDP (2011:278) states: “The development of the national spatial framework needs to involve the government, business and civil society to create a shared perspective. In identifying key elements of a common vision, lessons can be learnt from an earlier attempt to address such concerns – the National Spatial Development Perspective.” The NDP recommends the development of national spatial framework as part of transforming human settlement.

NDP (2011:278) also recommends that: “The development of a national spatial framework, as well as ongoing spatial management, must be supported by integrated national system of spatial data infrastructure. There are a number of initiatives in the public and private sectors to collect and analyse data at national level, but these are not well integrated and there is duplicated effort”. The NDP further calls for the establishment of the national observatory for spatial data assembly and analysis in order to support spatial planning (NDP, 2011:291). These two recommendations as discussed from the above make it clear that there is a serious need to strengthen the work of the SDI in South Africa in order to support decision-making.

Spatial data infrastructure

The primary focus of the paper is to discuss the role of SDI in the quest to create the developmental state in South Africa. However, while acknowledging the work done thus far by the GISc community in commencing the SDI initiative in South Africa, a lot of work is still needed, most importantly in placing the SDI to assist the NDP to achieve its goals. As it was discussed in the preceding sections the NDP calls for the creation of national observatory for spatial data assembly and analysis in order to support decision-making. The NDP also calls for the development of national spatial framework as well as ongoing spatial management. These are critical areas where SDI is needed.

Challenges of implementing the SDI Act 2003 in the last 12 years

The president of South Africa has assented the SDI Act, 2003 (SDI Act No. 54 of 2003) in February 2004. However, this piece of legislation was not put into operation by then. Only on 26 April 2006, the president signed the proclamation of certain sections (1 to 11, 13 and 19 to 22) of the SDI Act, 2003. This was to enable the department responsible for administering the implementation of the aforesaid piece of legislation to put systems and structures in place in the preparation for a fully implementation of all the remaining sections of the SDI Act, 2003.

Despite this historic move of having the proclamation of certain sections of the SDI Act being signed by the president, the challenges continued to plague the implementation of the SDI Act prior to the year 2009. This was because there was not leadership. This has led the work of SDI in South Africa to receive a lot of condemnation from the GISc community, citing a slow pace in the implementation as well as showing discontent over the paucity of metadata (Clarke, 2011).

Committee for Spatial Information

In 2010, the first term of the Committee for Spatial Information (CSI) was established in terms of Section 5 of the SDI Act, 2003. The work has begun wherein the CSI has managed to create sub-committees to expedite the implementation of the South African Spatial Data Infrastructure (SASDI) (www.sasdi.gov.za). The objectives of SASDI include among others, to facilitate the capture and sharing of spatial information, to avoid duplication of spatial data capture, to provide for the development standards and legislations to assist in the capture, storage, management, and retrieval of spatial information. The National Spatial Information Framework (NSIF) – a directorate responsible to administer the implementation of the SDI Act, 2003 – has managed to perform spade work, including the development of policies, guidelines and regulations. The NSIF working together with the South African Bureau of Standards (SABS) TC/211 (Technical Committee on geographic standards) facilitated the development of South African National Standards (SANS) needed for an effective capture, storage, sharing and management of spatial information.

The CSI has managed to develop two policies to assist in the achievement of the objectives of the SASDI. The two policies are: Base Dataset Custodianship policy; and Policy on Pricing of Spatial Information Products and Services. Despite the difficulties facing the CSI, one should acknowledge the progress made thus far to improve the implementation of the SASDI.
The first term of the CSI has already lapsed. The NSIF has continued to drive SASDI, despite the unavailability of the new committee. The remaining sections (12 and 14 – 18) of the SDI Act, 2003 were proclaimed on 23 April 2015. This is a major milestone as the SDI Act, 2003 now comes into a full operation.

Conclusion and recommendations

Subsequent to the call made by the NDP to create a national observatory for spatial data assembly and analysis, the new CSI and the NSIF have got an urgent need to provide strategic leadership in this regard. Looking at the ongoing duplication of efforts in data warehousing; there is a clear and pressing need to engage stakeholders regarding the mandate of hosting the national observatory. In South Africa, the NSIF is mandated to administer the implementation of SASDI. It is therefore important that it should be the same NSIF that should lead the process to put such infrastructure in place. While the country is facing serious economic instability, it becomes unwise to have organs of state continuing to duplicate efforts or battling over mandate of hosting the national observatory. Such practice is seen to undermine the efforts of reaching the goals of NDP and it also amounts to wasteful expenditure.

The NDP also calls for determining the proper placement of national observatory, and suggested areas such as research institutes or influential national department. In this regard, it is expected that the minister responsible of administering the SDI Act as advised by the CSI considers such recommendation.

There is also a need to strengthen the cooperation among organs of state, in particular, the involvement of key stakeholders leading the GISc industry. The following role players, but not limited to, are identified: The Spatial Planning and Land Use Management (SPLUM) and the National Geomatics Management Services (NGMS) branches within the Department of Rural Development and Land Reform; Statistics South Africa; Department of Transport; Environmental Affairs department; Water and Sanitation department; Presidency department; Human Settlement department; Co-operative Governance and Traditional Affairs departments, key parastatals such as Eskom, Transnet, Council for Geosciences, SANSA, CSIR, are all encouraged to rally behind the work of the CSI in order to realise the objectives of SASDI as well as NDP goals.

There is also an urgent need to establish a South African Geo-spatial Information Management Strategy (SAGIMS) that includes an implementation plan for a collaborative national SDI (SASDI). There is also a need for the CSI to work together with the council established in terms of the Geomatics Profession Act, 2013 (Act No. 19 of 2013) in order to advise institutions of higher learning to develop or revised the GISc curricula in order to produce capable technical-orientated cadres needed to effectively attain the goals of the NDP. Lastly, but not least, the warning should be given to guard against the capturing of the CSI by people who want to advance self-serving ambitions. This is only because if the CSI fails to perform its powers and functions, as well as in directing the SASDI to achieve the needs of the NDP, the country is doomed to fail. Thus, the achievement of the developmental state will remain an everlasting dream.

References


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