

Evaluating stakeholder influences on the land use application process in South Africa – Results from an analysis of the legal framework

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ABSTRACT:

The fact that geospatial data is a vital international and national resource is gaining increased acceptance worldwide. However, proper management of fundamental geospatial datasets, like land use, determines how well this resource can serve the goals of sustainable development, e.g. achieving inclusive and sustainable urbanization through informed decisions based on up-to-date land use data. Land use data describes the rights to utilize land in accordance with the legal zoning thereof. Allocation of land use rights must align with and give effect to national, provincial and local spatial plans, which means multiple stakeholders are involved in land use regulation. The purpose of this study was to identify and classify the network of stakeholders involved in the land use application process, which results in allocated land use rights. This was done by analysing the South African legal framework for spatial planning and land use management, and to evaluate their *a priori* influence on this process and on land use data. The results of the stakeholder network analysis can guide the identification of (a) suitable custodian(s) for this fundamental geospatial dataset in the context of the South African Spatial Data Infrastructure (SASDI). Within the SASDI, custodianship is used to ensure availability of good quality geospatial data to empower governments in their planning and decision-making. The average influence of each stakeholder, and as a result their impact on the land use data, was determined based on a classification of roles and responsibilities in the land use application process. The average influence was computed for each sphere of government. The provincial sphere had the highest influence, even though the local sphere has the mandate to allocate land use rights. The national sphere is mainly responsible for strategic direction and implementation support and thus had a significantly lower influence. Based on the results, shared custodianship of land use data in South Africa is recommended among a legislative custodian, coordinating custodians and data custodians. Further research will

involve stakeholder representatives to verify the results and to establish multi-stakeholder custodianship roles and responsibilities.

KEY WORDS: Stakeholder Management, Stakeholder Influence, Land Use Allocation, Geospatial Land Use Data, Spatial Data Infrastructure, Custodianship

1. INTRODUCTION

Land is one of the most important national assets, especially in countries like South Africa where land was previously used to give effect to discriminatory practices, such as racial segregation. That being the case, land reform is high on the agenda of the South African National Development Plan (National Planning Commission, 2010). The fair allocation of land use rights is the implementation level of those policies on land reform. Municipalities regulate land use rights and municipal land use decisions have a direct impact on the environmental, social and economic development of a municipality's area of jurisdiction. Oppositely, how and where land use is allocated determines the resources a municipality requires to provide adequate services to the public.

Land use allocation must also be purpose-driven, which means land use regulation must exist within a long-term strategic plan where the requirements for geospatial land use data are put into context and adequately planned for. The proposed National Spatial Development Framework (NSDF), as given in section 13 of the Spatial Planning and Land use Management (SPLUM) Act No. 16 of 2013, provides a long-term strategy for coordinating spatial planning, land development and land use management (Department of Rural Development and Land Reform and Department of Planning Monitoring and Evaluation, 2018). In the NSDF, the need for geospatial land use data for future planning is implicit, but clear. On the topic of rapid urbanisation, for instance, it states that better and active planning of land use allocation is needed, as it has a direct impact on public service delivery. Such planning requires up-to-date land use data. As a result, there has been increased awareness over the years of how land use data and more importantly, the management thereof, directly affects the well-being of humans and the environment (United Nations Committee of Experts On Global Geospatial Information Management, 2019).

In 2017, the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) established the minimum list of global fundamental geospatial data themes and National Spatial Data Infrastructures (NSDIs) were identified as the vehicle for implementing the UN-GGIM themes (Committee of Experts on Global Geospatial Information Management, 2018). As the name suggests, the fundamental geospatial themes specify the minimum data required to address national and international objectives for sustainable

planning. NSDIs have been adopted by most countries as multifaceted structures for the effective and efficient management of its spatial data resources and support sustainable planning and development. Globally, land use was identified as one of the fundamental geospatial data themes and is defined as “the current and future planned management, and modification of the natural environment for different human purposes or economic activities” (United Nations Committee of Experts On Global Geospatial Information Management, 2019). Land use data is vital for sustainable development and the achievement of the United Nations Sustainable Development Goals (SDGs) (Committee of Experts on Global Geospatial Information Management, 2018), such as SDG 15, Life on Land, which aims to address the impacts of land degradation, drought and desertification (United Nations Development Programme, 2018). There are other SDGs where the necessity for land use data is less obvious, but vital, such as SDG 13, Climate Action: geospatial land use data may inform how climate change has affected the usability of land, alternatively, land use planning must consider the current and future consequences of climate change on the environment.

In South Africa, those spatial data infrastructure (SDI) geospatial themes and datasets that have been identified as fundamental, are currently being aligned to the UN-GGIM global fundamental geospatial data themes to promote interoperability. Land use was also identified as a national theme for the South African SDI (SASDI). The SASDI must support all governmental strategies, programmes and objectives that relate to or require geospatial data, such as the NSDF. Land use data, within the context of the SASDI, has always referred to (though not formally defined) the mapping of land use as it exists on the ground, through automated spatial analysis techniques such as photogrammetry and remote sensing (Schwabe and Govender, 2012), which is different from the geospatial datasets derived from the manual capturing of land use rights for a particular property. The latter is the subject for this paper. Though both are equally important, not enough emphasis is placed on the availability and accessibility of land use rights data, without which municipalities in South Africa cannot function. Accurate information about what the land is legally designated to be used for is vital for municipal revenue regulation and generation.

The South African process for allocating land use rights forms part of a complex Spatial Planning and Land Use Management (SPLUM) system. Within the SPLUM system, the formal process of mapping land use rights is established (i.e. what the property is legally zoned for); however, since the system was only introduced in 2013, there are a few things that must be noted in the context of municipal land use management. Firstly, there is still a process of transition from previous land use systems. Secondly, municipalities may capture both the legal use of land and the *de facto* use of the land (i.e. what the land is being used for, irrespective of its legal zoning), since

the two are not always the same. Thirdly, for the spatial planning aspect, municipalities are also required to map the intended use of land in their Spatial Development Frameworks (SDFs). According to the SPLUM system, the legal land use must align with the planned use of the land. This paper refers only to the legal process for capturing land use rights, in which multiple stakeholders participate. The geospatial land use data derived from this process is thus a product of multiple stakeholder contributions (Sustainable Planning Solutions, 2013). The main objective of this paper is to determine how the various stakeholders influence the land use application process so that custodianship can be recommended for the land use rights data.

The SASDI is legislated by the Spatial Data Infrastructure Act No. 54 of 2003 and is established on the principles of data sharing, data accessibility and no duplication in the capturing of public geospatial information (South Africa, 2003). To ensure that public, fundamental geospatial data are of good quality, authoritative and continuously accessible to all users, the coordinating body of the SASDI appoints custodians for each fundamental dataset, guided by sector-specific legislation. In South Africa, a data custodian is “an organ of state; or an independent contractor or person engaged in the exercise of a public power or performance of a public function, which captures, maintains, manages, integrates, distributes or uses spatial information” (Committee for Spatial Information, 2015). However, no custodian has been appointed for land use yet. The complexities around its multi-stakeholder nature make it difficult to identify a custodian based on legislation only. Additionally, a SASDI multi-stakeholder collaboration framework does not yet exist. The purpose of such a framework would be to provide legal, organisational and productive cooperation structures that link stakeholders who participate in a common goal (Dessers et al., 2010). Without such a framework, a chain of negative implications emerges, starting with an undefined inter-organisational goal and adding to that, competing organisational goals of those participating in the collaboration (Pouloudi and Whitley, 1997; Pouloudi, 1999; Reed et al., 2009; Agustin et al., 2019). An undefined inter-organisational goal leads to duplicated efforts due to unstructured information flow and communication paths; data interoperability problems because of the lack of geospatial data standards, leading to less authoritative data being available for decision-making and planning; and difficulty in monitoring and measuring the success of a collaboration. SDIs were introduced to tackle these types of problems that contribute, amongst others, to the mismanagement of national data resources (A Rajabifard et al., 2002).

The work presented in this paper is part of the first phase of a research project to identify appropriate instruments for establishing institutional arrangements needed for SASDI stakeholder collaboration. The process for allocating land use rights is the case study for this research. For the first phase, of which the results are reported here, the

stakeholders in the land use application process were identified, classified and their relationships analysed as per the legal framework for SPLUM. Based on this, each stakeholder's influence on the process and on the land use data was evaluated. During the second phase, we will undertake semi-structured interviews with stakeholder representatives to establish criteria for allocating multi-stakeholder custodianship roles and responsibilities for fundamental geospatial data. Finally, a stakeholder collaboration framework, based on institutional arrangements between stakeholders, will be proposed based on the results of the first two phases.

This paper is structured as follows: section 2 gives the background and context to spatial planning in South Africa, a review of the SASDI and the role and purpose of SASDI custodians and it also presents a review of the literature on stakeholder theory from the management perspective. The methodology for the stakeholder analysis and the results are summarised in section 3, with the discussion of the results in section 4. Conclusions are presented in section 5.

2. BACKGROUND AND CONTEXT

2.1 National Spatial Planning in South Africa

South Africa has a long and complex national spatial planning history. The negative impacts of this history on the landscape are vast and evident. In the previous political dispensation, spatial planning was the mechanism used to geographically segregate areas for the various racial groups. Many years later, unjust spatial patterns and the results thereof are still seen across the country, despite the numerous spatial planning reform strategies, plans and instruments that have been presented over the last two decades (Coleman, 2018). Currently, the landscape comprises a variety of settlement types (such as rural, urban, informal, small town, villages and scattered) and thus, different land tenure systems, including informal or customary systems (South African Ministry for Provincial Affairs and Constitutional Development, 1998). Various pieces of legislation were used to drive the Apartheid ideology of racial discrimination and the spatial planning legislation played a significant role in this.

Prior to the era of land reform, during the years of Apartheid, spatial planning was driven by the regulatory function of land use zoning (Van Wyk and Oranje, 2014). This control function gave the state the authority to maintain racially segregated areas as intended by the Apartheid ideology. Areas allocated to white people were purposely zoned to prioritise economic and social development (Denoon-Stevens, 2016). Property prices in these areas remained high, forcing minority groups with low income to remain in areas of low or even no economic and

social development (Nel, 2016a). During this period, municipalities had little influence over land use allocation; the authority vested with the state (Van Wyk and Oranje, 2014).

Post-Apartheid, the Constitution of the Republic of South Africa Act No.108 of 1996 was the first piece of legislation that aimed to address every area of injustice resulting from the past regime. The Constitution establishes the Government of the Republic as constituting three distinct spheres: National, Provincial and Local. Though distinct, the three spheres are interrelated and interdependent and thus have a direct mandate to operate under the banner of co-operative governance (South Africa, 1996; Oranje and Van-Huyssteen, 2007). Regarding the management and development of land, the Constitution defines the local sphere of government, i.e. municipalities, as covering the whole territory of the Republic (South African Government, 1996). The entire country is demarcated by 278 contiguous municipal boundaries (Department of Local Government, 2020) – requiring spatial development planning for every part of the country (Coleman, 2018). Through the objects of local government in section 152 of the Constitution, municipalities are given executive authority over their functions. Municipal functions are further expounded in subsequent transformative legislation, e.g. the Local Government Municipal Structures Act No. 117 of 1998 (South Africa, 2002) and the Local Government: Municipal Systems Act No. 32 of 2000 (South Africa, 1998). Of specific interest to this research are the powers and functions of the local sphere regarding the allocation of land use rights, which up until the adoption of the SPLUM Act in 2013, were unclear. In the two decades leading up to the adoption of the SPLUM Act, that is post-Apartheid, various pieces of disparate legislation governed spatial planning and land use regulation (Laubscher et al., 2016).

The SPLUM Act provides a national framework of legislation for spatial planning and land use management for all three governmental spheres (Laubscher et al., 2016). As a result, some of the previous Acts pertaining to spatial planning were repealed, partly repealed or amended to align with the requirements set out in the Constitution and the SPLUM Act. The intention of the SPLUM Act was not only to bring uniformity and clarity, but also to give the local sphere the authority to allocate land use rights (Coleman, 2018; De Visser and Poswa, 2019). In the context of South Africa's political history, this decentralisation of authority is a significant shift because it allows those who are the most knowledgeable about community needs to respond appropriately. It allows municipalities to make land use decisions based on their planning needs and minimises the political influence on those decisions.

Another point worth noting is municipalities' need to strictly comply with their legislated responsibilities (Glasser and Wright, 2020; User Needs Analysis Working Group, 2021; Siebritz et al., 2021; Siebritz et al., 2022). This is mainly because their resources are limited and they cannot afford to undertake any other tasks that they are not

strictly required to do (User Needs Analysis Working Group, 2020). Therefore, if we want to understand why a municipality operates in a certain way, a study of the pertinent legislation provides a good starting point, as we have done in this paper.

As may be interpreted from the SPLUM Act, spatial planning has two dimensions, (i) strategic or proactive planning, which provides development tools for future planning; and (ii) statutory or regulatory planning, which is the lawful control of land use types and development applications in terms of a land use scheme (Laubscher et al., 2016). The SPLUM Act aims to provide the relationship between the two dimensions (South African Government, 2013). Municipal Spatial Development Plans (MSDFs), first introduced in the Municipal Systems Act, are the instruments used to carry forward the vision and strategy of spatial planning from the local perspective (De Visser and Poswa, 2019). The SPLUM Act further prescribes that each sphere of government must provide SDFs for their jurisdiction and that the SDFs from different spheres must be aligned (South African Government, 2013).

This research deals with one aspect of regulatory planning, the land use application process. Under section 5(1) of chapter 1 of the Act, municipalities are given the role of controlling and regulating “the use of land within the municipal area where the nature, scale and intensity of the land use do not affect the provincial planning mandate of provincial government or the national interest” (South African Government, 2013). The national and provincial spheres are empowered to play a strategic role and offer support to municipalities in terms of SPLUM (South African Government, 2013).

Though land use allocation is a function of municipalities, the interrelated, interdependent nature of SPLUM requires cooperation between the spheres and sectors of government (South African Government, 2013; Van Wyk and Oranje, 2014). The need for a well-functioning public administration is provided for in the five normative principles, namely spatial justice, spatial sustainability, efficiency, spatial resilience and good administration, upon which the SPLUM Act is established (South African Government, 2013; Van Wyk and Oranje, 2014). The principles of “efficiency” and “good administration” relate more specifically to the public administrative system required for allocating land use rights and managing stakeholder influences and are therefore relevant to this study. The two principles may be summarised as: efficient, streamlined, timeous land use procedures for decision-making; and an integrated approach to land use and development application processes that are transparent and allow for sufficient public participation. A brief discussion of the principles follows.

2.1.1 Land use decision-making

Van Wyk and Oranje (2014) aim to determine whether the spatial planning system, as set out in the SPLUM Act and the Bill of Rights enshrined within the Constitution are mutually beneficial. They provide an in-depth discussion of the various aspects that both pieces of legislation address, including public administrative decision-making and participation of all stakeholders in the municipal spatial planning processes. The land use application process comprises a chain of stakeholder decisions and they conclude that both the Constitution and the SPLUM Act prescribe good administration to allow for effective decision-making. In terms of the spatial planning system though (i.e. through SDFs), a decision, as defined in the Constitution, is not legally binding (Van Wyk and Oranje, 2014). However, land use application decisions are protected by the Constitution and are thus legally binding, meaning that the administrative processes can be enforced (De Visser and Poswa, 2019). For this reason, municipalities are obliged to comply with their respective MSDFs and may only deviate from their MSDF if properly justified (South African Government, 2013; Johnstone, 2019). Compliance with provincial and national SDFs is less compelling for municipalities (De Visser and Poswa, 2019). This disjuncture may present an opportunity for misalignment of spatial planning visions and political influencing, but further investigation is required to understand this dynamic.

Municipalities are required to establish by-laws to effect good administration (South African Government, 1996; De Visser and Poswa, 2019). Municipal by-laws are intended to provide the details of, in this case, administrative processes for land use allocation that must comply with the Constitution, as well as with national and provincial spatial planning laws (De Visser and Poswa, 2019). As emphasized by Johnstone (2019), the SPLUM Act provides a legislative framework for municipal land use by-laws.

2.1.2 Integrated approach

Because the land use application process involves several stakeholders, the SPLUM Act calls for an integrated approach by those involved. The Act makes provision for decisions from other sectors of government that may be affected by a land use decision. In this regard, the Act allows for land use approval processes to be combined (South African Government, 2013). However as De Visser and Poswa (2019) demonstrate through by-law case studies, municipalities have not been eager to integrate their processes with stakeholders from other spheres and sectors. The findings by Van Wyk and Oranje (2014) may provide some understanding – the authors state that the measures to enable cooperation and collaboration between the spheres of government are “sorely lacking” and may have a detrimental effect on the spatial planning system. Despite these realities, municipalities are still

required to coordinate stakeholder approval processes for land use applications. This research aims to contribute to the above concern.

2.1.3 Public participation

A very important part of a democratic society is provision for public participation in state matters. In section 152 of the Constitution, public participation is enabled through engagement with municipal processes. Further to this, details on public participation in spatial planning and land use management (including land use application processes) are limited in the SPLUM Act. Section 7e of the Act simply states that the public are afforded the opportunity to give their inputs to such processes, leaving municipalities with the responsibility to create the mechanisms for transparent processes. Again, municipal by-laws are the appropriate mechanism for clarifying such processes.

In summary, the SPLUM Act principles are commendable in that they provide a holistic, normative guide for addressing the injustices resulting from the past regime (Johnstone, 2019). However, implementation of the principles still presents a number of challenges. Pertaining to land use applications, the greatest challenge is probably the integration of stakeholder processes, or “stakeholder influences” as it is termed in this study. The question then arises: why and how does this research assist with managing stakeholder influences in the land use application process? The answer to the first part of the question is simple. The SASDI is defined as the: “national technical, institutional and policy framework to facilitate the capture, management, maintenance, integration, distribution and use of spatial information”. In other words, the SASDI governs all public spatial data; meaning that it must also provide the mechanisms and instruments to support organisations with their data management that align with the data governance model. Thus, under the banner of the SASDI, the longer-term and overarching goal is to provide a framework that enables multi-stakeholder collaboration – answering the “how”. The first part to providing such a framework is identifying suitable custodianship roles for the land use application process. This paper proposes such roles for land use rights data.

2.2 The SDI Evolution

SDI has become a universally accepted concept. For at least the last three decades, countries have been working tirelessly to formulate governing structures for their geospatial data, realising that operating without such an infrastructure leads to wasted resources.

Since the concept was first introduced in the late 1990's, there have been three generations of SDIs (Masser, 1999), emphasizing a different approach to geospatial data management. First generation SDIs focused on data production and the technical systems required to integrate geospatial data from various sources (Rajabifard et al., 2006). Second generation SDIs shifted from data management to data governance and allocated specific roles and responsibilities to sub-national government, and in many cases the private sector as well, that is, a decentralised SDI (Rajabifard et al., 2006). These two generations of SDIs gave national government full authority over the development and implementation of the SDI. Third generation SDIs have a user-needs focus (Masser, 2009; Rajabifard et al., 2002b). Users of the geospatial data have influence over the development and implementation of the SDI (Hennig and Belgiu, 2011). The intention of this approach is of course to ensure geospatial data meets user needs optimally.

Originally, the SASDI was initiated in the 1980's with the plan of setting up a national central data repository for all public geospatial data. Since this was not possible at the time, what ensued was work on technical standards for integrating geospatial data, as was typical of first generation SDIs (A Rajabifard et al., 2002). However, it was not until 2010 that the first SASDI coordinating body was established, the Committee for Spatial Information (CSI). Much of the SASDI, as it is known today, was established during that period. In the 2011 terms of reference, the CSI set out the strategic objectives of the SASDI, the CSI's role and responsibilities and lastly, it established the six sub-committees to carry out the work and give advice on the development and implementation of the SASDI (Committee for Spatial Information, 2011). Fast forward to the present, the SASDI has seen slow institutionalisation, despite the efforts of many. This paper does not focus on the factors that have hampered the progress of the SASDI, but rather it will contribute to the SASDI implementation by proposing a way forward to achieving an enabling infrastructure for government programmes such as SPLUM.

The SASDI requires a vision and strategy. A number of SDI researchers have pointed out the necessity of an SDI vision and strategy and how it has translated into increased SDI institutionalisation (Chan and Whitworth, 2003; Singh, 2005; Masser, 2005). Furthermore, Masser (2009) emphasizes the importance of updating an SDI strategy through continuous review processes. An SDI strategy specifies the governance approach. With the SASDI, even in the absence of a strategy, a hierarchical approach has generally been followed – the infrastructure is owned and driven by national government. The role of sub-national government, the private sector, as well as users, have not been defined or sufficiently engaged with. Part of this lack in strategic direction is the fact that the SDI legislation

has not been integrated with other legislation related to geospatial information and public administration for the three spheres of government. The results of this research may be used to inform a strategy for the SASDI.

2.3 SASDI Custodianship

The Department of Agriculture, Rural Development and Land Reform (DARD & LR) (previously the Department of Rural Development and Land Reform) is responsible for the implementation of the SASDI. Currently, the SDI Act only applies to organs of state (South Africa, 2003). Any organ of state that captures and distributes geospatial information to the Republic is referred to as a data custodian. However, an organ of state that is responsible for capturing a fundamental geospatial dataset must be appointed as a 'base data set custodian' through the CSI. A base dataset is defined as: "those themes of spatial information which have been captured or collected by a data custodian" (Committee for Spatial Information, 2015). This definition lacks clarity and is currently under review by the responsible CSI Subcommittee. One of the SASDI policy documents also supports collaborative governance of a fundamental geospatial dataset (Committee for Spatial Information, 2015). It states that custodianship may be shared between custodians, as may be required. Shared custodianship must be coordinated by an organisation appointed as the 'base data set coordinator'. The information on shared custodianship and collaboration is limited within the policy. Though the structures are limited, SASDI uses custodianship as the main mechanism to implement geospatial data governance (Committee for Spatial Information, 2015). The current practice within the SASDI is to identify custodians through their legislative mandates, which will always be the starting point in South Africa. However, the network of stakeholders involved with a specific dataset is not considered when a custodian is identified for the governance of that dataset. Without this, there is no clear picture of who has what kind of influence on the datasets. This may lead to poor coordination and duplication of efforts. Siebritz et al. (2021) and Siebritz et al. (2022) show that the lack of a governance structure has impeded the development and implementation of SASDI. This has led to limited stakeholder participation, specifically from the local sphere, which in turn has resulted in uncoordinated data activities, incompatible datasets and difficulty in accessing authoritative data, all of which affect government's ability to deliver services effectively to the public. To strengthen the governance of an SDI, the totality of stakeholder interactions (or network) must be considered; these stakeholder networks are vital for achieving inter-organisational coordination (Sjoukema et al., 2017), which leads to sustainable access to those fundamental geospatial datasets. Stakeholder analysis is a useful instrument to determine the influence of the various role players in a network to develop "effective and sustainable governance frameworks" (Coetzee et al., 2019), (Coetzee et al., 2020). Using this motivation, we build on the SASDI custodianship governance by demonstrating that the stakeholders within the network have varying

influences on a specific dataset (in this case, the land use rights dataset) and therefore have to form part of the governance structure. Based on our results, we identify potential custodians.

As mentioned earlier, a list of SASDI fundamental dataset themes has been published and the associated geospatial datasets have been identified according to criteria proposed by the same CSI Subcommittee. From the authors' involvement with the implementation of the SASDI, one of the criteria that has been used to identify fundamental datasets is: *complete coverage of the area of interest, preferably national coverage*, which is important for planning and decision-making at a national level. The land use rights dataset meets the remaining criteria but does not meet the coverage requirement. Geospatial land use rights data is captured at the municipal level, not nationally and in many cases the coverage is not complete for the geographic extent of the municipality. The CSI has therefore not recognized the land use rights data as a fundamental dataset and has not appointed a data custodian, even though municipalities vitally rely on this information for the determination of property rates and taxes and to ensure compliance with their SDFs.

There are two main land tenure systems in South Africa, formal and customary, which are not integrated and thus result in different mapping practices, as well as unmapped land use in some areas (United Nations Economic Commission for Africa, 2003; Dubazane and Nel, 2016). Because of the inconsistencies in the geospatial land use data, the land use application process will be analysed. Furthermore, customary land use processes are out of the scope of this research because they are not legislated and therefore not necessarily formally documented in geospatial data. The processes for allocating customary land use may also differ from one municipality to another.

2.4 Stakeholder Theory

The term stakeholder was originally defined by Freeman, (1984) as: "any group or individual that can affect or is affected by the achievement of an organisation's objectives". Pouloudi (1999), in a review of the stakeholder concept and its applicability in information systems development, argues that the original definition by Freeman (1984) places a single organisation at the centre and the stakeholder relationships are interpreted from that perspective. The author thus extends the original definition to accommodate interconnected stakeholders from more than one organisation as: "any individual, group, organization or institution who can affect or be affected by the interorganisational system under study". The adapted definition was used in this study for three reasons. Firstly, it considers the complexity of multi-disciplinary stakeholders. Secondly, it supports collaborative stakeholder network theory. Thirdly, it is geared toward information system development, where traditional stakeholder typologies are redefined to empower stakeholders previously considered as less influential.

The significance of these three characteristics is that they are aligned with the characteristics of a 'bottom-up' SDI implementation – a vital consideration for the overarching research objective. Traditional 'top-down' SDIs are described as being hierarchical, bureaucratic and government-controlled (Crompvoets et al., 2008; Coetzee and Wolff-Piggott, 2015). 'Bottom-up' SDI implementation, on the other hand, allocates a greater level of importance to sub-national governments (provincial and local) and data users; and consequently they have more influence, i.e. decentralised SDI governance (Masser, 2005; Masser and Crompvoets, 2015). This governance model necessitates diverse stakeholders and maximisation of those stakeholder relationships (Rajabifard et al., 2006; Budhathoki and Nedovic-Budic, 2007). In Belgium, a four-year long project, dedicated to the integration of stakeholders from multiple disciplines, was undertaken to ensure effective and efficient geospatial data management within the SDI context, demonstrating that it is a lengthy and complex process (Crompvoets et al., 2008; Macharis and Crompvoets, 2014).

Stakeholder management principles and techniques from the stakeholder theory were originally intended for the private sector but have proven useful in the public sector as well. Both Scholl (2001) and Flak and Nordheim (2014) demonstrate how the theoretical stakeholder management approaches proposed by Donaldson and Preston (1995) can be used for driving complex multi-level government initiatives. Flak and Nordheim (2014) combine the first of the three approaches, the descriptive stakeholder approach with dialectic process theory to identify potential conflicting stakeholder interest. Stated simply, the descriptive approach is used to reflect on and describe the relationships between the organisation and its stakeholders (McLaughlin and Jawahar, 2001). Further explanation of the organisation-stakeholder relationships, whether past, present or future, may form part of this process (Donaldson and Preston, 1995). The second approach, the instrumental approach looks at how the organisation-stakeholder relationship aligns with the vision and mission of the organisation in order to develop or improve methods or strategies used to achieve the organisational objectives (Donaldson and Preston, 1995; Jones, 1995; Pouloudi, 1999). Thirdly, the normative approach considers a broader scope of stakeholders based on ethical reasoning (Jones, 1995; Pouloudi, 1999; Reed et al., 2009). Though the approaches each have distinct projected outcomes, they may be used in combination. As Reed *et al.* (2009) and Pouloudi (1999) state, the descriptive approach is generally used as a first step toward either an instrumental or normative goal. This paper presents the descriptive phase that will at a later stage contribute to the overarching normative objective, which is to propose a framework for SASDI stakeholder collaboration.

Stakeholder analyses comprise qualitative and quantitative techniques used in stakeholder management for determining stakeholder interest and influence. Typically, stakeholder influence is determined by the presence or absence of three attributes (Mitchell et al., 1997): (i) “power i.e. the degree to which stakeholder can impose its will in a relationship”; “legitimacy, i.e. degree to which stakeholder is socially accepted” and (iii) “urgency, i.e. degree to which stakeholder is prepared to go to any length to achieve the desired outcomes” (Mitchell et al., 1997). Similar to Coetzee *et al.* (2019), we did not consider the legitimacy attribute because all stakeholders are determined from legislation. The urgency attribute is difficult to determine without stakeholder engagement, and will therefore be assessed in the next phase of this research. Bourne and Walker (2005) who devised the Stakeholder Circle methodology for visualising stakeholder influence include another attribute, ‘proximity’, which refers to the level of direct involvement of the stakeholder. With this methodology, each of the three attributes are determined through an agreed upon rating system (i.e. the prioritisation process), where stakeholders are ranked according to their relative importance to the subject under study, at a particular time (Bourne and Walker, 2005; Bourne, 2009). Essentially, the rating system introduces a method for weighting the attributes (Yang, 2014). The influence then may be calculated using the software developed by Bourne or through manual computations, which may be as simple as adding the respective ratings for each stakeholder (Bourne, 2009). The methodology by Bourne and Walker (2005) (also see Bourne (2009)) was followed in this study and a manual calculation involving the weighted attributes was used to determine the influence of each stakeholder. It allowed us to present the qualitative analysis, quantitatively. An example is provided in section 3.1.

3. STAKEHOLDER ANALYSIS

Prell *et al.* (2008) provide a three-phased approach for stakeholder analysis, that is, identifying stakeholders, classifying stakeholders and investigating the stakeholder relationships. This section presents the methodology for identifying and classifying stakeholders in an interorganisational environment and determining their influence on the activities and outcome of the land use application process within land use management in South Africa.

The unit of analysis in this study is the municipal land use application process that results in geospatial land use data. Eventually, such municipal datasets could be aggregated and integrated into provincial datasets and/or a national dataset that meet the SASDI fundamental dataset requirements. Generally, the land use application process is defined as successive, interconnected activities, starting with the submission of a land use application and ending in the mapping of allocated land use rights (adapted from Dessers *et al.*, 2010). By analysing how different stakeholders influence this process, it is possible to determine their influence on the land use data, which

in turn makes it possible to identify the most suitable custodians. Thus far, the CSI has only appointed custodians as defined in the legislation, i.e. organs of state are responsible for making the geospatial data available. But as this study will show, for complex datasets like land use, more is required. Because the land use data is captured by individual municipalities (i.e. multiple data custodians for the same theme), coordination of those datasets is necessary – a function which does not fall within the municipalities’ mandate. However, the coordination function must align with the functions and administrative systems of the spheres, as specified in the legislation. In addition, the DARD & LR is the owner of the SPLUM Act and thus carries the legislative responsibility.

3.1 Stakeholder Identification and Classification

The stakeholders for each of the land use application process activities were identified, primarily from the spatial planning legal framework and supplemented with other secondary sources, such as policy documents, reports, meeting minutes and government websites. The stakeholder level is defined at the formal group level (such as organisations, committees, councils and bodies), except for the applicant, which may be an individual or a group, who submits their application to the municipality. According to the SPLUM Act, municipalities are responsible for processing land use applications and allocating land use rights. This information was used as the starting point for identifying the stakeholders. The land use process activities within municipalities may differ according to their Municipal Category (i.e. category A, B or C) (South African Government, 1996), SPLUM by-laws (South African Government, 2013; Coleman, 2018), context (e.g. presence of land under customary systems) and resource availability. Nonetheless, the SPLUM Act together with the Local Government Municipal Structures Act No. 117 of 1998 and the Local Government: Municipal Systems Act No. 32 of 2000 establishes the essential stakeholder roles and their associated responsibilities for land use management and the land use application process.

Figure 1 depicts the land use application process and the stakeholders associated with each process activity. The three phases shown in Figure 1 – the (i) administrative phase, (ii) consideration phase and (iii) decision phase – were taken from the Regulations made in terms of the SPLUM Act (Department of Rural Development and Land Reform, 2015). Included in the process map is the resulting geospatial land use data that is mapped by the municipality. The connections between the stakeholders and process activities were derived from the legislation. As illustrated in the legend, there are three types of connections that are depicted in the process map: (i) stakeholder to stakeholder (black, solid line connections), (ii) stakeholder to land use process activity/ data (black, broken line) and (iii) process activity to process activity/data (bold grey, broken line). The figure shows that the Municipal Planning Tribunal (MPT) and/or a municipal official is appointed by the legislative municipal

executive, the Municipal Council, and is responsible for assessing all land use applications and providing the final decisions. The MPT is made up of members from the Municipal Administration and members from the public. Land use applications may be submitted by the public or by the state in the case of state development initiatives.

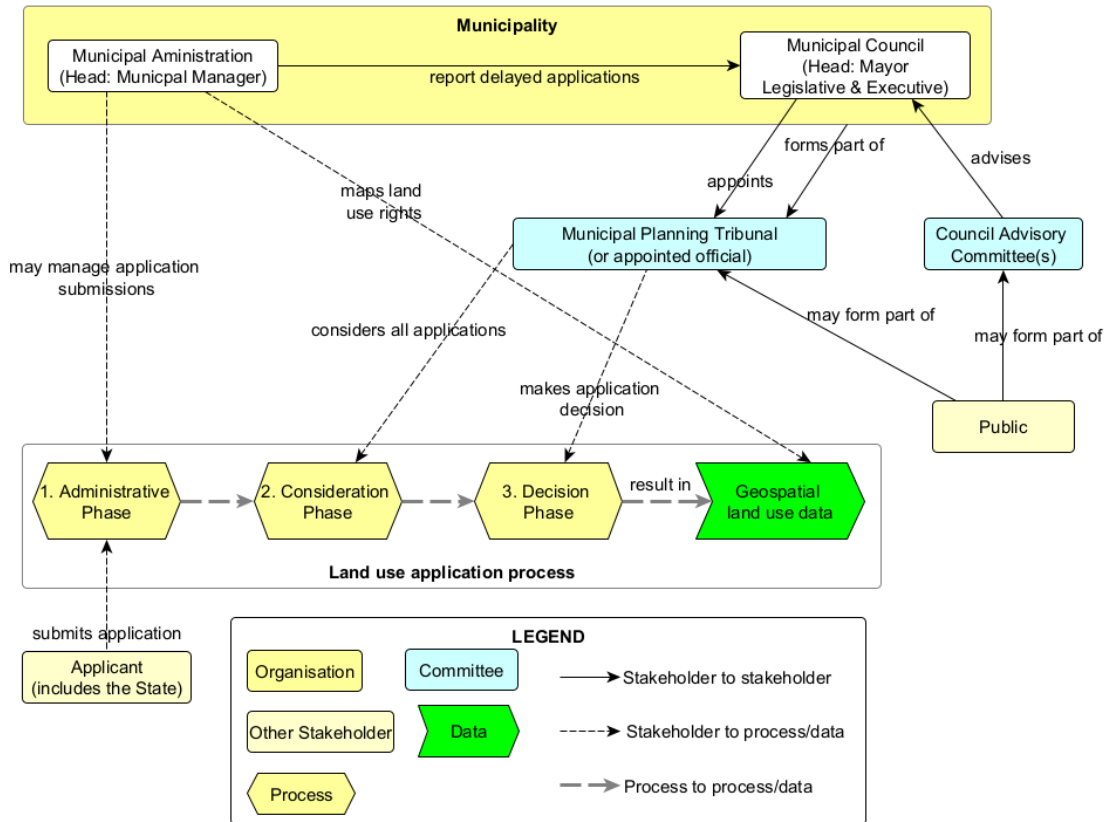


Figure 1. Municipal land use application process mapped from SPLUMA Regulations

In South Africa, the land use application process is not isolated – the regulation function belongs to the local sphere, but the provincial and national spheres are required to provide strategic direction, monitoring of and support to the local sphere. As is common with the descriptive stakeholder approach, a stakeholder network map was compiled for the land use application process (Flak et al., 2008), illustrated in Figure 2. The stakeholders for all three spheres were included in the network map. Other stakeholders included in the network are the applicant, the public and the SASDI CSI so that their influence on the land use application process could also be determined. As with Figure 1, stakeholders were connected based on the description of the stakeholder role and responsibilities in relation to the land use application process, as specified in the legislation. It should be noted that only those stakeholders that are associated with the land use application process are shown in the stakeholder map and not the entire structure of government.

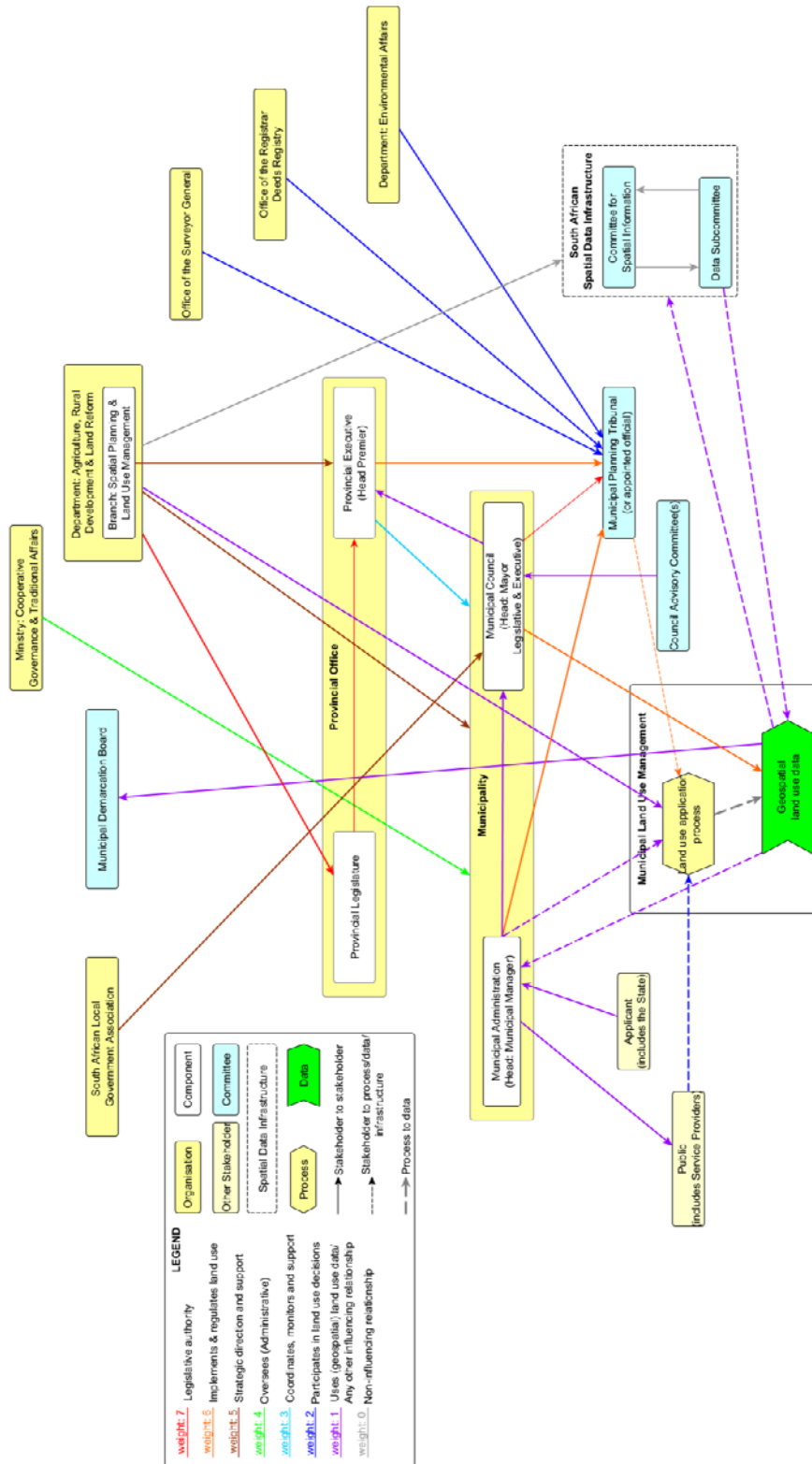


Figure 2: Stakeholder network map for land use application process

At first, all stakeholder connections were mapped in the same colour; as an example, the connection between the Municipal Demarcation Board (MDB) (committee at national level) and the geospatial land use rights data as captured by the Municipal Administration, is described by section 25 (h) in the Local Government: Municipal Demarcation Act 27 of 1998 (South African Government, 2002) as: "...the Board must, when determining a municipal boundary, take into account- existing and expected land use, social, economic and transport planning;". A summary of that legal description was originally used as the label for the connection between the stakeholder and the data and the direction of the connection (denoted by the arrow head) is from the stakeholder who has the power to influence, as shown in Figure 2. In this case, the MDB must comply with the existing and planned land use as given in the land use data, therefore the direction of the connection is from the data to the MDB. In another example from Figure 2, the relationship between the Branch: SPLUM (within the DARD & LR) and the Provincial Executive is described as, "may prescribe norms and standards for land use management and land development", which is taken from section 8 (1) of the SPLUM Act. According to these legal descriptions, the Branch: SPLUM has a much greater power to influence the land use application process than the MDB. Therefore, the various stakeholder relationships were assigned weights accordingly, which is described in the next section.

The stakeholder responsibilities in the network map were used to create the stakeholder classification shown in Table 1. Each category in Table 1 was allocated a power level based on the degree to which that category can impose its will on the land use application process (i.e. allocation of stakeholder weights), and therefore any potential changes to the land use data. Definitions for the power levels are presented in Appendix B. All definitions were taken directly from the SPLUM legislation and similar stakeholder responsibilities grouped into the nine categories corresponding. For each category a weight was assigned by the authors, ranking the stakeholders according to their relative importance, resulting in seven power levels (Bourne, 2009; Coetzee et al., 2019). The colours were used to distinguish between different power levels. Thus, in the two afore-mentioned examples, the Branch: SPLUM-Provincial Executive relationship, was assigned a greater weight (brown connection with power level 5), compared to the MDB-data relationship (purple connection with power level 1), which has very little power over the land use application process. This process was followed for all stakeholder connections.

The categories, "gives strategic direction and support", "coordinates, monitors and supports", and "oversees (administrative)", were difficult to distinguish, because the terminology between sources was not aligned and the legislative descriptions were vague. To avoid loss of information, three separate categories were created for each of the associated responsibilities. Though there are three categories, it is possible that there is overlap in the

stakeholder responsibilities. For each stakeholder connection shown in Figure 2, a power level (ranging from 0 to 7, where 0 represents a non-influencing relationship and 7 represents the highest level of influence) was assigned based on the stakeholder classification in Table 1, which is represented by the corresponding colours. Because some stakeholders were assigned more than one role, they had more than one connection to other stakeholders and consequently more than one power level was allocated. For readability sake, the labels containing the legal descriptions were removed from Figure 2 and only weighted connections shown. The details of the stakeholder relationships are provided in Table A1 in Appendix A. It shows the connection direction (i.e. “from” and “to” columns), a summary of the stakeholder’s responsibilities for each connection, the level of interest as it pertains to the responsibility (i.e. national, provincial or local) and lastly, the power level. Some stakeholders have more than one connection, indicated by the arrow in the “from” column.

Table 1. Stakeholder classification for the land use application process

No	Stakeholder Category	Power Level	Proximity Weight
1.	Legislative authority	7	1
2.	Strategic direction and support	5	3
3.	Coordinates, monitors and support	3	5
4.	Oversees (Administrative)	4	4
5.	Implements and regulates land use	6	2
6.	Participates in land use decisions	2	6
7.	Uses (geospatial) land use data	1	7
8.	Any other influence relationship	1	7
9.	Non-influencing relationship	0	15

The power per stakeholder was determined by summing the weighted connections from the influencing stakeholder to other stakeholders. Next, a power percentage was computed by normalising the totalled power per stakeholder, following the same method as Coetzee et al. (2019) and Coetzee et al. (2020) in their stakeholder analyses. The normalisation was required because the power and proximity attributes had different ranges and the normalisation enables us to combine the attribute values to obtain an influence percentage. In addition to the power, each stakeholder category was assigned a weighted proximity based on how closely associated the stakeholder category is to the land use application process (see column 4 in Table 1). Stakeholders who are closer

to the land use application process have a lower proximity than those further away. For each stakeholder, the proximity was determined by summing the shortest connecting path from the stakeholder to the land application process, which results in a change or update to the land use data (Coetzee et al., 2019; Coetzee et al., 2020). As with the power, a proximity percentage was computed through a normalisation process. As an example, the influence of the Office of the Chief Surveyor General (SGO) was computed as follows. In Figure 2, the connecting path from the SGO to the municipal land use application process is: the connection from the SGO to the MPT shown by the dark blue connection and from the MPT to the land use application process, shown by the orange connection. According to the stakeholder categories in Table 1, the blue connection has a proximity weight of 6 and the orange connection has a proximity weight of 2, which results in a total weighted proximity of 8 (i.e.: $6 + 2 = 8$) for the SGO, and after normalisation results in 53% (i.e. the relative proximity, which is: $(8 \div 15) \times 100 = 53\%$). For the power, the dark blue connection is the only connection from the SGO, which according to Table 1 has a power weight of 2 resulting in a normalised power of 14% (i.e. relative power, which is: $(2 \div 14) \times 100 = 14\%$). Finally, the influence per stakeholder was calculated by averaging the power and the inverse (i.e. $100\% - 53\% = 47\%$) of the proximity. The inverse proximity was used so that higher percentages represent stakeholders that are closer to the process and would thus contribute to a higher influence (Coetzee et al., 2020). In the SGO example, the stakeholder influence would be: $(47\% + 14\%) \div 2 = 30\%$.

3.2 Stakeholder Influence

Figure 3 shows the power percentage (in orange) and inverse proximity percentage (in grey) for each stakeholder of the land use application process. As described above, the power percentage per stakeholder was obtained by summing all the weighted connections from the influencing stakeholder to other stakeholders and the totalled power was normalised. The inverse proximity percentage was obtained by summing the shortest connecting path from the influencing stakeholder to the land use application process, normalising the totalled proximity and then calculating the inverse. The Municipal Council displays the most significant result with the highest power and the second lowest proximity (and thus second highest inverse proximity percentage), resulting in the highest influence (i.e. 90%). The DARD & LR has the second highest power and a high inverse proximity resulting in the second highest influence (i.e. 76%). The Cooperative Governance and Traditional Affairs Ministry (CoGTA), the DARD & LR and the Department of Planning, Monitoring and Evaluation (DPME) are collectively responsible for the implementation of the SPLUM Act, with the DARD & LR being the owner of the Act (Department of Rural Development and Land Reform, 2017). Yet, the CoGTA has a low average influence of 14%. The DPME was

excluded from this analysis because no explicit mention of its role in regulatory planning was mentioned in the legislation, only its responsibility toward spatial planning generally. Another interesting result is the relatively high influence level of the Provincial Executive with an influence of 64%. Collectively, the provincial sphere had the highest influence of 64%. Comparatively, the national sphere had a significantly lower influence of 29%, while the local sphere had an influence of 53%. Included in the local sphere's influence is the public, since their engagement is directly with the municipality where they reside. Individually, the influence of the public was 37%.

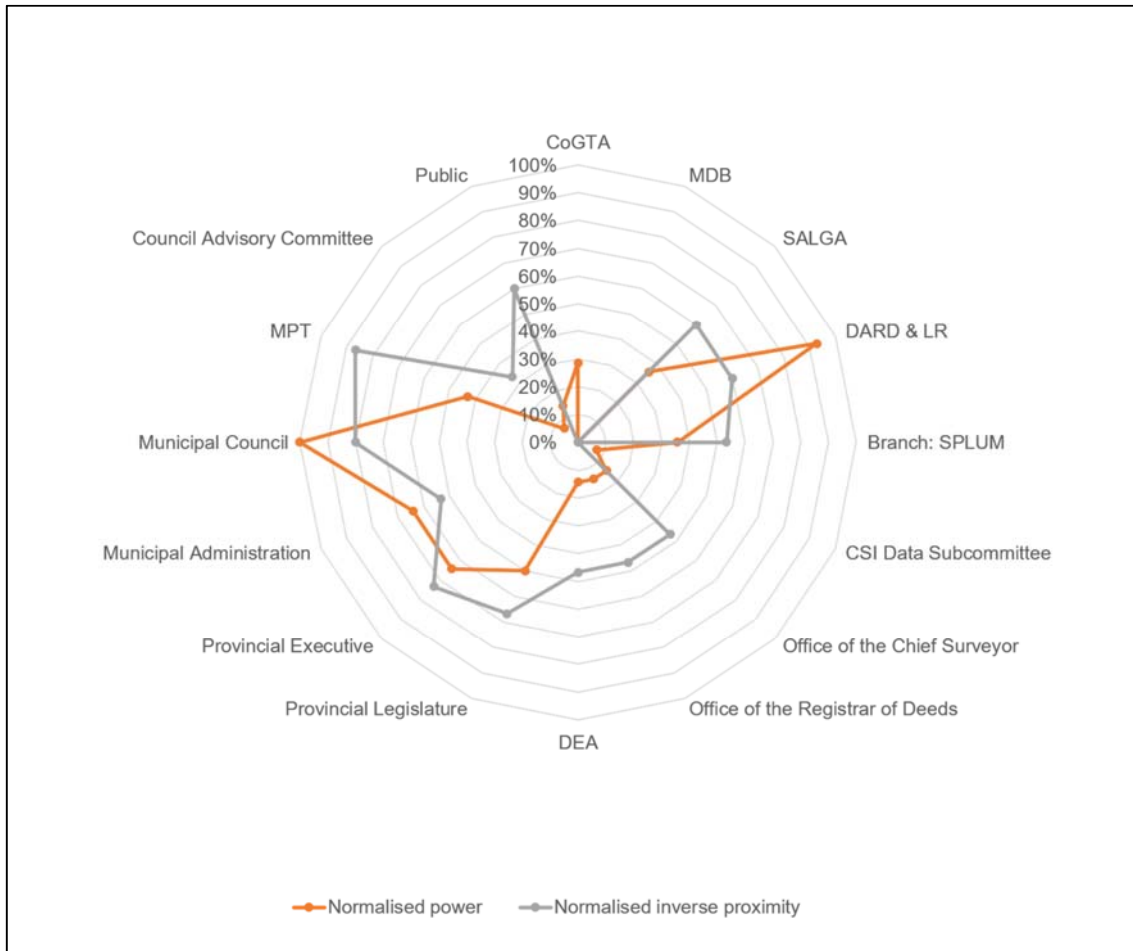


Figure 3. Normalized power and normalized inverse proximity of stakeholders in land use application process

4. DISCUSSION

The South African spatial planning and land use management legal framework calls for uniformity, intergovernmental cooperation and coordination, and therefore balancing of stakeholder influences. The low level of influence of the national sphere on the land use application process is not a surprising result, since no

implementation or land use regulation occurs at this level of government. What should be of concern at this level is the differences in influence between the DARD & LR, CoGTA and DPME. Though the CoGTA and DPME roles are concerned with the alignment of authorities and monitoring of spatial planning rather than land use allocation, the SPLUM Act emphatically promotes integration of the strategic and regulatory dimensions, which requires a holistic strategic role for the national sphere. From the legislation, it is difficult to distinguish with certainty the roles of national departments and how those roles translate into functions. There were also no connections (horizontal relationships) between the two national departments in the network map (refer to Figure 2), and as mentioned before, DPME was not included in the stakeholder analysis because it is not explicitly mentioned in the legislation. The effect of this is echoed in the 2019 report by the Panel on Land Reform and Agriculture, which states that there is misalignment between the afore-mentioned national departments regarding land and land management decision-making (Mahlati et al., 2019). It also shows the shortcoming of the SASDI practice to appoint custodians based only on explicit mention of mandates in legislation.

To some degree, the vertical relationships between the national and provincial spheres are more distinct. The DARD & LR has the responsibility to provide national legislation, policies, norms and standards and the province must implement these and articulate the requirements to the local sphere. The provincial sphere must also provide province-specific legislation that is compliant with the SPLUM Act and this must also be articulated to the local sphere. The high level of influence of the provincial sphere may be attributed to the legislative power that it possesses. Municipal SPLUM by-laws must align with provincial SPLUM legislation. Adding to that, the provincial sphere has the right to appoint the members of the MPT that allocates all land use rights in instances where the municipality fails to do so. The South African Local Government Association (SALGA) within the CoGTA Ministry has a similar responsibility to articulate national legislation to the local sphere but interacts directly with municipalities. It is difficult to determine from the legislation whether these two legislative functions are aligned. Future research, which will include direct engagement with municipalities, may provide clarity on the roles of these stakeholders.

It is less complex to interpret the roles and responsibilities within a municipality from the legislation. With municipalities having almost complete power over the outcome of a land use application, it was expected that they would have the highest influence, but this was not the case. The connections from the municipality to the remaining spheres were not as obvious to interpret from the legislation. The stakeholder map in Figure 2 shows that the connections are mainly from other stakeholders to the municipality, with only a reporting responsibility

to the Provincial Executive. This provides evidence that the type of relationships between the local and the provincial and national spheres are still instruction-driven from the top down – possibly accounting for a lower influence at the local sphere than expected. The SPLUM legal framework has introduced the incorporation of a ‘bottom-up’ influence from the local sphere. A ‘bottom-up’ influence is not limited to the mandate to allocate land use rights, but the local sphere should be able to influence provincial and national legislation and policies on land use. Both the provincial and national spheres should have a good understanding of the local sphere (e.g. What are their needs? What business processes are in place? Do they understand the legislative implications of the SPLUM Act?) because legislation and policies are developed and implemented hierarchically. Intentionally, systematic interaction between the three spheres is required and formal mechanisms must be in place to balance legislative authority against implementation authority for a multi-stakeholder system like the case presented in this paper. Furthermore, the local sphere provides a voice for the public through public participation processes. The influence, as shown in this investigation, was low but it may be attributed to the limited detail included in the SPLUM Act. Thus, it is difficult to determine the extent of public participation in the land use application process without studying a municipality’s by-laws. This requires further investigation, which will be done through the stakeholder engagement phase of the research.

The ‘bottom-up’ nature of SPLUM aligns with the ‘bottom-up’ SDI implementation approach, which means it would be possible to satisfy the end goals of both SPLUM and SASDI with an integrated approach. An integrated approach may also be useful in determining how and when geospatial land use data can be consolidated to cover larger geographic extents. The stakeholder analysis has however shown that the relationship between SPLUM stakeholders and the SASDI is limited and that SASDI does not add any value to the land use application process. This outcome is significant because the success of an SDI relies on its ability to improve the functioning of organisations and their business processes (Dessers et al., 2010). The SASDI commands compliance and standardised, good quality, integrated geospatial land use data from municipalities but does not provide any support to the multiple stakeholders involved in the creation and management of this data. Because there is no support from the SASDI, municipalities that are already under-resourced struggle to provide authoritative geospatial land use data – without which SPLUM cannot function.

5. CONCLUSION

The aim of this research was to evaluate how stakeholders influence the land use application process and the resulting land use data. The results can be used to inform identification and assignment of custodianship of SASDI

datasets toward a more inclusive and sustainable SDI governance. The study highlighted the importance of understanding in detail how powers and functions of organs of state in terms of geospatial data provision are assigned in the legislation. It also pointed out the shortcoming of relying only on explicit mandates assigned in legislation. Based on the results of this study, shared custodianship is recommended for the land use application process. A different approach is taken here to what is documented in the SASDI policy documents; instead of simply proposing custodianship for the data only, responsibility is allocated for the entire process that results in geospatial land use data. The DARD & LR is recommended as the legislative custodian, meaning that it is responsible for implementation of and compliance with the SPLUM Act. The respective provincial offices are recommended to be the coordinating custodians, ensuring that municipal datasets are captured according to the land use schemes, that data capture is not duplicated amongst municipalities and that provision is made for aggregated municipal datasets, as may be needed in future. Thirdly, the respective municipalities are recommended as data custodians, responsible for the production and maintenance of the land use data for their areas of jurisdiction. The legislation provided a good starting point for identifying the stakeholders, but to gain a clearer understanding of the stakeholder relationships in order to verify their actual influence (such as the public's influence) and to verify the custodian roles we recommend that apart from the criteria for custodianship, direct engagement with the stakeholders is required. This will help us to understand how municipalities have implemented the SPLUM Act land use application process and the various internal and external factors that affect this process and its outcomes. Engagement will also make it possible to determine the stakeholder urgency with respect to the process and the data, and to identify *de facto* stakeholders that are not explicitly mentioned in the legislation.

This paper is part of a larger research project, which aims to propose a way in which multiple stakeholders can collaborate on the maintenance of geospatial datasets like land use. Cooper, Van Huyssteen and Das (2014) emphasized the need for an integrated approach to the implementation of SASDI and SPLUM. Six years later, there is no observable progress in this regard, despite the fact that the DARD & LR is the owner of both pieces of legislation. Cooper, Van Huyssteen and Das (2014) state that inclusion of the broader scope of stakeholders for the implementation of the SASDI is vitally important for the implementation of the SPLUM Act. This research presented an approach that includes a wide range of stakeholders and may even be expanded following a stakeholder engagement process. Secondly, this method has revealed that much work still needs to be done in terms of inter-Departmental and intra-Departmental initiatives, such as the SASDI and SPLUM, if these are to serve the purposes of national and international sustainable planning and development as proposed in the SDI

work undertaken by the UN-GGIM (UN-GGIM, 2018). A good starting point for SASDI support is the integration of the SDI Act and the SPLUM Act. The SDI Act has also not been integrated with any other legislation that deals with public administration, information management, information access or information and communications technology (ICT), like e-governance. Future work should consider customary land use processes because these are an important part of SPLUM in South Africa.

Finally, a note on the internal and external validity of this study. The method used in this paper clearly demonstrates how stakeholders with varying levels of influence affect the land use application process. Changing the role and responsibilities of a stakeholder automatically changes the influence they have, demonstrating the internal validity. Several stakeholder classifications have been introduced by other researchers, but the classification used in this study was more suitable for the analysis of stakeholders from the legal perspective. It should also be noted that this classification was purely based on the stakeholder roles described in the legislation, rather than using a predetermined classification, which has a potential for bias toward certain stakeholders. It would be interesting to see if similar results are obtained if a different classification were to be used but also based on the concepts of “power” and “proximity”.

Though all stakeholders of the SPLUM legal framework were included, there are other stakeholders, such as State-owned Enterprises (e.g. the electricity provider, Eskom), who have an indirect influence over the land use application process but are not mentioned in the legislation. This is a limitation of the study, which will be addressed in the stakeholder engagement phase of the study, during which the legal framework will be compared to what happens in practice. Another limitation of this phase of the study is that we cannot determine how the land use application process is affected by internal factors such as organisational structure and culture, resource availability (e.g. data availability, skills, technological systems and budget), organisational policies etc., as well as external factors such as provincial SPLUM legislation, natural disasters, geographic location and extent etc. This information can only be gained through meaningful engagement with a number of stakeholders.

In terms of external validity, the geospatial land use data as described in this paper is unique to South Africa (i.e. mapped land use versus property use rights); however, zoning and land development approval processes that involve multiple stakeholders are not unique to South Africa (Nel, 2016b; Brody, 2003). This method could also be applied in other countries to reveal the power dynamics of interdependent stakeholders and how the respective legislation either empowers or disempowers certain stakeholders, whether in the context of SDI or other areas, such as resource management (Prell et al., 2009).

6. APPENDIX

Appendix A. Table A1. Descriptions of stakeholder connections, their interest and power level

No.	From	To	Description of responsibility	Interest	Power Level
1.	Ministry: Cooperative Governance & Traditional Affairs	Municipality	<ul style="list-style-type: none"> Oversees land use schemes; alignment of authorisations, Municipal Planning Tribunals and application appeals 	National	4
2.	South African Local Government Association	Municipal Council (Head: Mayor Legislative & Executive)	<ul style="list-style-type: none"> articulates National policies best practices on land use & development planning 	National	5
3.	Department: Agriculture, Rural Development & Land Reform	Provincial Legislature	<ul style="list-style-type: none"> provide and review laws and policies on national planning; provide strategic support with land use management 	National	7
4.	→	Municipality	<ul style="list-style-type: none"> may prescribe norms and standards for land use management and land development 	National	5
5.	→	Land use application process	<ul style="list-style-type: none"> sets time frames for approval process 	National	1
6.	→	South African Spatial Data Infrastructure	<ul style="list-style-type: none"> Custodian of SDI Act Implements infrastructure 	National	0
7.	Branch: Spatial Planning & Land Use Management	Provincial Executive	<ul style="list-style-type: none"> may prescribe norms and standards for land use management and land development 	National	5
8.	Office of the Surveyor General	Municipal Planning Tribunal (or appointed official)	<ul style="list-style-type: none"> must comply with legal land parcel demarcation 	National	2
9.	Office of the Registrar Deeds Registry	Municipal Planning Tribunal (or appointed official)	<ul style="list-style-type: none"> must comply with land tenure 	National	2
10.	Department: Environmental Affairs	Municipal Planning Tribunal (or appointed official)	<ul style="list-style-type: none"> must comply with environmental legislation 	National	2

11.	South African Spatial Data Infrastructure: Data Subcommittee	Geospatial land use data	– identifies as national base dataset	National	1
12.	Provincial Legislature	Provincial Executive	– passes legislation – oversees implementation of legislation	Provincial	7
13.	Provincial Executive	Municipal Planning Tribunal (or appointed official)	– may appoint members	Provincial	6
14.	→	Municipality	– coordinate & monitor performance – resolves conflict in land use management – provide guidance on national norms & standards for land use changes – support and assist with land use management	Provincial	3
15.	Municipal Administration (Head: Municipal Manager)	Municipal Planning Tribunal (or appointed official)	– must be part of	Local	6
16.	→	Municipal Council (Head: Mayor Legislative & Executive)	– Report delayed applications	Local	1
17.	→	Land use application process	– may manage application submissions	Local	1
18.	→	Public (includes Service Providers)	– must make all land use records available to	Local	1
19.	Municipal Council (Head: Mayor Legislative & Executive)	Municipal Planning Tribunal (or appointed official)	– passes By-laws – establishes MPT	Local	7
20.	→	Geospatial land use data	– must adopt land use scheme	Local	6
21.	→	Provincial Executive	– must submit land use scheme	Local	1
22.	Municipal Planning Tribunal (or appointed official)	Land use application process	– considers all applications and makes final decision	Local	6
23.	Council Advisory Committee(s)	Municipal Council (Head: Mayor Legislative & Executive)	– advises	Local	1

Appendix B. Table B1. Stakeholder Categories for Land Use Management in South Africa

	Stakeholder Category	Description	Influence Level (Power)
1.	Legislative authority	An organisation, within the spheres of Government that has the legal right to initiate, amend and pass legislation and policies, including legislation and policies for spatial planning and land use management.	7
2.	Strategic direction and support	An organisation or body, within the spheres of Government that has been mandated by legislation to provide strategic direction and support to other organisations within the spheres of Government, specifically to spatial planning and land use management. Strategic direction may be in the form of policies, frameworks, plans, etc. and support may be in the form of guidelines, procedures and best practices.	5
3.	Coordinates, monitors and support	An organisation or body, within the spheres of Government that has been mandated by legislation to: <ul style="list-style-type: none"> (i) provide mechanisms for coordinating the concurrent plans and activities of the organisations it is responsible for; (ii) monitor the implementation of the SPLUM Act, specifically as pertains to land use management of the organisations it is responsible for (e.g. alignment with National, Provincial, Regional and Local SDFs, adoption and implementation of land use schemes, compliance with land use and land development application processes and compliance with principles, norms and standards); and (iii) provide support to the organisations it is responsible for with the implementation of spatial planning and land use management responsibilities, where support may be in the form of guidelines, procedures, best practices, technical systems or other mechanisms that may be appropriate 	3
4.	Oversees (Administrative)	This role is not mentioned in the SPLUMA legislation but in the Constitution (e.g. role of Provincial Legislature) and on organisational websites (e.g. CoGTA website). In the true sense of the word, oversees may refer to more interaction which may include direct instructions. It is unclear whether this role may be interpreted as “monitoring”.	4
5.	Implements and regulates land use	An organisation or body, within the Local sphere of Government that has been mandated by legislation to consider land use and land development applications and to provide a decision on the application. The decision taken is legally binding.	6
6.	Participates in land use decisions	Any organisation or individual who has the right to participate in the land use management. The participation activities include participation in the adoption or amendment of a land use scheme or land use or land development application. Stakeholders in these categories do not have the legal right to decide on any land use or land development application. Note: This category specifically includes the Office of the Surveyor General and the Office of the Registrar of Deeds who may have assigned the cadastral boundaries and legal ownership of a land parcel prior to a land use or land development application.	2

7.	Uses (geospatial) land use data	Any organisation or individual who uses the land use data made available by a Municipality.	1
8.	Any other influence relationship	Administrative support; advising; reporting; application submission	1
9.	Non-influencing relationship	Any stakeholder relationship that has no influence on land use management	0

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