

SOURCES OF LAND INFORMATION IN SOUTH AFRICA AND THEIR INSTITUTIONAL CONTEXT



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| Authors and Contributors | Mark Napier, Angela Rosenfeldt, Beth Crankshaw, Antony Cooper, Nosizo Sebake, Engela Petzer, Alize le Roux, Andre Breytenbach |
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1) INTRODUCTION

Land Portal and the Council for Scientific and Industrial Research (CSIR) have collaborated on this project designed “...to uncover, democratize and improve the land data and information ecosystem in South Africa” (Land Portal Foundation, 2019). This is one of a number of State of Land Information (SoLI) projects in an international process covering a number of countries. The first part of the project involved in-country teams scoping the information landscape (resulting in this report). The second part involved an open data compliance assessment by the Land Portal Foundation, using the scoping exercise as the basis (resulting in the report titled, State of Land Information South Africa: Uncovering South Africa’s Land Information Ecosystem). The intention is that a third phase, depending on funding availability, would involve targeted capacity building interventions designed to achieve improvement in information management practices (Land Portal Foundation, 2018).

So far the countries that have published SoLI reports include Kenya, Uganda, Tanzania and South Sudan¹.

At a strategic level, the State of Land Information initiative focuses “... on gaining more global awareness on the land governance situation in South Africa, with a particular focus on uncovering data and information and using that to inform debate, strengthen advocacy messaging or simply communicating data and information in a way that is beneficial to a wider, non-expert audience.” (Land Portal Foundation, 2019)

The observation unit for the purpose of this scoping exercise is **the dataset**. In the context of this research, a dataset is defined as “a structured collection of information, including (numerical) data, publications and multimedia contents” (Land Portal Foundation, 2018). This may be a statistical dataset that contains land cover data (for example), but it can also include a database of publications that contains information about (a certain topic of) land governance, for example.

For a more detailed explanation on the research methods and design for the scanning phase, please refer to the Research Guide (Land Portal Foundation, 2018).

OBJECTIVE

The objective of researching and reporting on the state of land data and information at country level is, according to the Land Portal’s Kenya report,

“... to provide an overview of existing data and information on key land issues.

¹ <https://landportal.org/blog-post/2019/03/launching-state-land-information-uncovering-information-ecosystem>

The aim of the research is to uncover the many different sources of land data and information at the country-level and help to identify actual data and information gaps, with a view to establishing a baseline for targeted 'information-based' interventions to improve the information ecosystem. What sets this research apart from other monitoring initiatives, is that the focus is on the database or dataset and its sources; the value or content of the information is not our main focus. Our belief is that data quality, accuracy and reliability lies in the judgement of the user.

For the very first time, we look at the entire landscape of a country to see trends and gaps when it comes to land data collection, as well as how accessible it is on the world wide web. The State of Land Information report concludes with – where necessary – concrete recommendations to data and information providers to improve their data sharing practices, to help establish a functioning, inclusive and democratized ecosystem of data.” (Mey, Odhiambo, Tejo-Alonso, & DeMaria, 2019)

The centuries-long influence of colonial and apartheid planning in South Africa that included the practices of zoning land on the basis of race leading, in many cases, to land dispossession and extensive forced removals (refer Platzky & Walker, 1985), has meant that land and the control of land have been, and remain, central national issues with important economic, social, environmental and political dimensions.

Given this context, it is perhaps fairly obvious why opening up access to information about all aspects of land would be one of a number of crucial elements needed to support and take forward the national, land transformation project.

Land reform has again, in the last couple of years, become a high-level, national priority and was a central issue in the national elections leading to the establishment of the sixth democratic parliament in June 2019².

The sometimes charged debates surrounding complex policy-making processes can certainly benefit from access to more reliable data and information as an evidence-base to allow issues to be more responsibly addressed.

When discussing regulations designed, for example, to control the ownership of property by non-South Africans (Samasuwo, 2004), or progress in changes in patterns of land ownership since 1994, or land expropriation without compensation, for all these types of issues, access to relevant and reliable data is essential if regulatory or other interventions are to be designed well.

² <https://www.parliament.gov.za/project-event-details/43>; and <https://www.parliament.gov.za/press-releases/current-composition-newly-sworn-6th-parliament>

The recent release of the findings report of the Presidential Advisory Panel on Land (Mahlati et al., 2019)³ which was the result of many months of engagement and consultation, has again focused attention on the importance of overcoming, in practical ways, the considerable challenges experienced so far by the state-led land reform programme.

THE IMPORTANCE OF TRANSPARENCY IN LAND DATA AND INFORMATION

Why are open access to land data, and information transparency, crucial for South Africa today? We can make a general, in-principle argument for open access to land data, and that it would be 'good' for democracy, accountability and improved government. In this instance, there is more than an in-principle case for open access to data because South Africa's Constitution, adopted in 1996 (Republic of South Africa, 1996), enshrines the right to access to information. According to Clause 32:

- (1) Everyone has the right of access to —
 - (a) any information held by the state; and
 - (b) any information that is held by another person and that is required for the exercise or protection of any rights.
- (2) National legislation must be enacted to give effect to this right, and may provide for reasonable measures to alleviate the administrative and financial burden on the state. (Republic of South Africa, 1996)

The next section will expand on later legislation designed to improve the management of, and access to, land and spatial data.

According to Manona, "At least five constitutions – of Kenya, Panama, Poland, Serbia and South Africa – expressly extend the right to information to state-owned enterprises and/or private entities that exercise public functions as well as to public authorities." Further to this, Manona points out that "South Africa is also among the initial eight founding members of the Open Government Partnership (OGP) in an initiative that was formed in 2011 with a view to providing an international platform for domestic reformers "committed to making their governments more open, accountable, and responsive to citizens."" (Manona, 2019, p. 8)⁴

³ Available at <https://www.gov.za/documents/final-report-presidential-advisory-panel-land-reform-and-agriculture-28-jul-2019-0000>

⁴ Manona's paper, written for the LandNESS network, has a more extensive discussion of the constitutional basis for transparency and open data - (refer discussion in Manona, 2019 pages 7 - 20)

For any country, but particularly for South Africa given the country's land history briefly alluded to above, some of the *advantages and benefits* of transparency in land data and information would include:

- decision-makers being able to measure progress in spatial transformation away from the past patterns of racial segregation and unequal access to land and secure tenure, and towards a more egalitarian future;
- the open sharing of data substantially assisting in what is referred to in government circles as improved “inter-governmental relations” (or IGR), thereby allowing state agencies to coordinate their plans and interventions, and to start to achieve “spatially targeted investment”⁵, and land reform and redistribution which are both seen as high priorities in reversing some of the lasting effects of past systems;
- the state, with the help of agencies in the private sector, academia and civil society, being able to understand and respond to emerging patterns of urban growth and migration thus allowing planning in advance;
- citizens being able to hold the state accountable by monitoring (for instance) the satisfaction of the rights related to access to, and use of, land for a variety of uses;
- both government and civil society being better able to understand and monitor change in who is succeeding in accessing better-located land in the context of a sometimes very competitive land market⁶;
- investors (whether small or large) being able to make decisions about future investments and improving the levels of predictability that foster investor confidence;
- private-sector agencies being able to build on to state datasets and adding to the utility of such datasets, while also deriving commercial value⁷.

There are many other real and potential benefits to open access to data and obviously more specific advantages can be identified for the many types of data that are commonly used in different sectors such as the variety of urban land uses, and agriculture, forestry, and mining.

While the principle of open access to land data and information is a sound one, there can be an argument of course for some limits to open access to all data.

For instance, when it comes to the state (typically municipalities) releasing spatially-specific information about where infrastructure investment will take place, there is a case for

⁵ A term that is used to imply coordinated government capital expenditure in concentrated geographic areas identified as high priority. Refer to the Draft National Spatial Development Framework (Republic of South Africa, 2018)

⁶ Refer Urban Land Markets Programme work on addressing competition in the urban land market – www.urbanlandmark.org

⁷ Although, we should add that this benefit to private sector agencies of open access to state data should not cause the state to abrogate its responsibility to ensure that high-quality data is freely available, a point we will reiterate in the final conclusion.

thinking about the timing of the release of certain types of data and information. There are examples where municipalities or provinces have disclosed future plans prematurely, before taking steps to do its own planning sufficiently, which have led to less positive forms of speculation by the private sector to the detriment of less powerful sectors in society.

A typical example has been the release of information about the location of public rail and road routes, and stations, in South African cities without a prior effort by the state to secure land for lower cost housing and government services in what then become prime locations as a result of the state transport and other infrastructure investment.

There is of course a distinction between arguing the benefits of access to more basic forms of data collected using public funds, and this case of the premature release of public planning information affecting intended, future infrastructure investment by the state.

On the flip side, prior to its release, government employees who have privileged access to information about land need to exercise care in the proper use of this information, as it can be used for the common good or for pursuing more individual agendas (refer Chapter 1, section 5, of the Catalytic Land Development Guideline, National Treasury, 2018).

There are many other generic benefits to open government data that would apply in most or all countries (as discussed by Manona, 2019 and many others). But one positive feature of the South African situation, as we shall see, is that the legal system ensures that information about who owns what land is not regarded as private information⁸. Although the information is not always accurate or fully up to date (or free), the legally-enforceable access to information about land ownership is a significant transparency advantage in a country that is consciously trying to move away from its unequal past. Transparency in land ownership information does help to measure progress away from the situation where a privileged few had access to the benefits of the land and exclusive rights over property, and many of the benefits derived from the most productive and well-located land, much to the detriment of the majority, and towards a situation of greater distribution of resources and opportunities.

⁸ A point expanded on in the section addressing the legal, policy and institutional environment.

2) LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK

Starting with this section on the legal, policy and institutional framework, this and each subsequent report section will begin with a table of matrix entries relevant to each key category being discussed. These entries about each dataset apply at time of writing, and the SA matrix is liable to alteration as further datasets are located, and existing ones move or disappear. When referring in the text to a record in the matrix we use the convention of "Ref #"⁹ to cross reference the unique reference number of the relevant dataset being discussed.

Table 1. Legal, policy and institutional framework (sourced from SA SoLI Matrix 03/12/2019)

| Ref | Name of dataset | Description & URL | SoLI Code |
|-----|--|--|--------------------|
| 1 | Constitution of the Republic of South Africa, 1996 | As a constitutional democracy, the Constitution lays out law making processes, it influences how such laws should be enforced, and how the executive implements legislation ¹⁰ https://www.gov.za/documents/constitution-republic-south-africa-1996 | 1a_LegalConst |
| 57 | Hansard | From Hansard website: Hansard is a substantially verbatim report - with repetitions and redundancies omitted and obvious mistakes corrected - of parliamentary proceedings. It is named after an English printer, L Hansard (1752 - 1828) and his descendants, who compiled the reports until 1889. Combined with the Parliamentary Monitoring Group platform, this gives access to discussions of land issues in Parliament. The PMG platform (Ref 56) seems to be easier to search for land-related proceedings https://parliament.gov.za/hansard | 1a_LegalConst |
| 93 | The Gender and Land Rights Database | This database created by the Food and Agriculture Organisation of the UN explores the gender inequalities embedded in the country profiles, gender and land-related statistics and a legal assessment tool (LAT). Unfortunately, there is limited data for SA currently. http://www.fao.org/gender-landrights-database/en/ http://www.fao.org/gender-landrights-database/country-profiles/countries-list/general-introduction/en/?country_iso3=ZAF | 1c_LegalTenRecog |
| 19 | Municipal Money | "Municipal Money is an initiative of the National Treasury, which has collected extensive municipal financial data over several years and would like to share this information with the public. The aim is to make this data widely available in order to increase transparency, strengthen civic oversight and promote accountability." ¹¹ https://municipalmoney.gov.za/ | 1e_LegalTax |
| 56 | Parliamentary Monitoring Group (PMG) | "The Parliamentary Monitoring Group (PMG) is an information service established in 1995 as a partnership between Black Sash, Human Rights Committee and Idasa with the aim of providing a type of Hansard for the proceedings of the more than fifty South African Parliamentary Committees for these three advocacy organisations." | 1f_LegalAccessData |

⁹ Where '#' is the number.

¹⁰ Based on <https://www.parliament.gov.za/news/parliament-custodian-our-parliamentary-democracy>

¹¹ <https://municipalmoney.gov.za/about>

| | | |
|--|---|--|
| | <p>Kingwill, R. (2018). Country Assessment : Towards a National Engagement Strategy (NES) for South Africa April 2018.</p> <p>Cross refer record 56 (Parliamentary Monitoring Group)</p> <p>https://pmg.org.za/</p> | |
|--|---|--|

THE CONSTITUTION

The Constitution of the Republic of South Africa, 1996, is central to the country's economic, social and spatial transformation, and the reform of its legal system. Given the well-known history of the country, access to land and shelter is one of the strongest themes in the Constitution.

The text of the Constitution was well disseminated and popularised after its release, remains widely available offline (in print format) and online (e.g. from <https://www.gov.za/documents/constitution-republic-south-africa-1996> (Matrix Ref 1)), and is often quoted in government and wider debates and discussions.

In Chapter 2 of the Constitution, the Bill of Rights, states that,

- relating to **'property'** (which includes but is not limited to land):
 - (5) The state must take reasonable legislative and other measures, within its available resources, to foster conditions which enable citizens to gain access to land on an equitable basis.
 - (6) A person or community whose tenure of land is legally insecure as a result of past racially discriminatory laws or practices is entitled, to the extent provided by an Act of Parliament, either to tenure which is legally secure or to comparable redress.
 - (7) A person or community dispossessed of property after 19 June 1913 as a result of past racially discriminatory laws or practices is entitled, to the extent provided by an Act of Parliament, either to restitution of that property or to equitable redress.
 - (8) No provision of this section may impede the state from taking legislative and other measures to achieve land, water and related reform, in order to redress the results of past racial discrimination, provided that any departure from the provisions of this section is in accordance with the provisions of section 36(1).
 - (9) Parliament must enact the legislation referred to in subsection (6). [i.e. regarding securing tenure or providing redress]

- and relating to ‘housing’, Clause 26 states that:
 - (1) Everyone has the right to have access to adequate housing¹².
 - (2) The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of this right.
 - (3) No one may be evicted from their home, or have their home demolished, without an order of court made after considering all the relevant circumstances. No legislation may permit arbitrary evictions.

With developments over the last three years that have elevated discussions of land expropriation (with or without compensation), section 25(2)¹³ has been a key clause in the discussions about a possible amendment to the Constitution.

The report of the Presidential Advisory Panel on Land Reform and Agriculture (Mahlati et al., 2019) recommended an amendment to the Constitution to clarify under what circumstances there may be expropriation without compensation.

In mid-December (2019), the SA Parliament released a draft bill for public comment, titled the Constitution Eighteenth Amendment Bill (Republic of South Africa, 2019). This bill suggests an amendment to the property rights clause (Section 25) to allow expropriation of land for land reform purposes and that a court may in cases determine that the amount of compensation is to be nil. In that this Bill was only introduced between the writing of the mid-December version of this report, and the current mid-January 2020 version, we will not comment further on the merits of the proposed Constitutional amendment.

Land is referred to in parts of the Constitution as a class of property (and, as noted already, there is a much broader understanding of land as a social and economic good to which SA residents should have access). In earlier research commissioned by the Urban Land Markets Southern Africa Programme (Urban LandMark) in 2007, when asked to address the sometimes sensitive topic of (urban) land as a commodity, the following observations were made by the writers commissioned to look into this topic:

- “Urban land can be defined as a commodity that is traded or as a right that is used to obtain access to urban amenity. Both are important components of urban land.
 - Land is considered to be a commodity when it is bought and sold freely¹⁴;

¹² As subsequently defined in the Housing Act No. 107 of 1997

¹³ Under Sections 25(1) and (2) of the Constitution, the right to property (including land), is protected, and the expropriation of land and rights to land may be effected for a public purpose or in the public interest, but only the state has the authority to expropriate. (Republic of South Africa, 1996)

¹⁴ This was the opinion of the researchers on this project.

- Land is considered to be a right to which all members of society should have access whether they are rich or poor.”
- “In many societies and particularly in South Africa, with its legacy of apartheid, land is an emotional issue. It is not just seen as a commodity ... as defined above but as a historical and social right to which all members of society should have access whether they are rich or poor. This concept is encapsulated in South Africa’s constitution, which includes the right of access to land as indicated in clause 25(5) of the constitution of the Republic of South Africa, “The state must take reasonable legislative and other measures, within its available resources, to foster conditions which enable citizens to gain access to land on an equitable basis”.” (Gordon, Nell, & Bertoldi, 2007)

Many detailed and capable commentaries have been written on various land-related aspects the Constitution, for example Peter Rutsch on the place of land and tenure in the Constitution (Rutsch, 2011) and Kihato and Berrisford on post-1994 land planning mandates as prescribed in the Constitution (Kihato & Berrisford, 2006).

Many of the cases that have been referred to the Constitutional Court between 1995 and the present have had to do with testing the rights to access land and housing, and security of tenure –

- refer <https://www.concourt.org.za/> and <http://www.saflii.org/za/cases/ZACC/> - (Matrix Ref 59 – the SAFLII platform contains the land cases from all courts);
- for examples of significant housing rights cases refer (Tissington, 2011).

In terms of the Constitution’s position on traditional and indigenous practice, in work done on how the international definitions of key terms suggested by the World Bank’s Land Governance Assessment Framework (LGAF) applied to South Africa, the following comment was made about indigenous communities:

“The recognition of traditional (indigenous) communities and customary (indigenous) law by the Constitution of the Republic of South Africa, 1996, has changed the place of indigenous people in SA. As a consequence of the constitutional changes, South Africa’s indigenous people are no longer marginalized and vulnerable and are, with the law, part of ‘mainstream society’. The interpretation of the customary law by the Constitutional Court makes it now a part of the country’s common law. The critical thing is how the courts will develop and incorporate indigenous notions of land related law, e.g. rights to land by family members, layered rights to land”. (du Plessis, 2011)

There is a large body of available evidence and commentary on how this has played out in the Courts and in society since 1994. The rulings are available online (Land Claims Court Database - Matrix Ref 59).

LAND GOVERNANCE

The Land Governance Assessment Framework SA report (Kitchin & Ovens, 2013) outlines the country's institutional framework as follows:

- South Africa is a constitutional democracy with an independent judiciary and three independent spheres of government, namely, national provincial and local government. The latter sphere comprises three categories of municipalities:
 - Category A - Metropolitan municipalities
 - Category B – Local municipalities
 - Category C – District municipalities which contain two or more local municipalities.
- “The national, provincial and local levels of government all have legislative and executive authority in their own spheres, and are defined in the Constitution as “distinctive, interdependent and interrelated” Source:
<http://www.southafrica.info/about/government/gov.htm>.”

The questions posed in this scan about the ecosystem, focus mainly on state actors. We reiterate the point that the quality of government datasets is such that it creates opportunities for private operators (whether for profit, or not for profit) to build upon and add value to the base datasets that are held by the state. This is not a matter of principle but one of degree - there *is* state data, it *is* in most cases available, but it is often poorly captured, coordinated, collated, maintained and presented¹⁵. In some cases, as with the example of land use data, it is very localised and so far the systems are not consistent with one another. This is the data and information gap or niche that is filled by others downstream of government, often for commercial gain. However, for the purposes of this exercise, the description of the land governance ecosystem below focuses on the state actors and their respective mandates.

Quoting mainly from research done during the South African LGAF process, along with a number of updates to the situation, the main institutions responsible for land governance, and their responsibilities, are as follows:

- the recently restructured **Department of Agriculture, Land Reform and Rural Development**, the national department responsible for all land, and for the state land reform and rural development programmes¹⁶. This department was recently

¹⁵ This is an important concluding comment for the whole exercise.

¹⁶ According to the LGAF research the “minister makes policy approved by Cabinet and Department carries out the function. ... SA’s constitutional system is based on the principles of cooperative governance. Thus where

expanded to include Agriculture (which moved from forests and fisheries), so now also oversees farm land, food production and the promotion of emerging farmers;

- the **Chief Surveyor General's Office**, responsible for maintaining the Cadastre and approval of all diagrams required for land registration purposes, in line with the Land Survey Act No 8 of 1997 (refer Figure 1);
- the **Deeds Registry**, responsible for the registration of all titles and changes made thereto from time to time, as required by Deeds Registries Act No 47 of 1937 and related regulations (refer Figure 1);
- the **Chief Directorate for National Geographic Information** (or NGI – see <http://www.ngi.gov.za/>). The unit is responsible for “...an integrated survey system and provision of extensive mapping and aerial imagery coverage of the country” and is the custodian of many of the imagery datasets mentioned in the Matrix. It appears as one of the directorates mentioned in Figure 1 and Figure 2 below.
- the **Commission on Restitution of Land Rights** that originated in the property clause of the Bill of Rights contained in the 1996 Constitution, the Commission seeks to manage the restoration of, or compensation for, deprivation of land under apartheid (as enacted in Implementation of the Restitution of Land Rights Act No 22 of 1994);
- the national **Department of Human Settlements** (recently falling under one Ministry with the Department of Water and Sanitation) and its provincial counterparts responsible for ensuring access to adequate housing (as defined in the Housing Act No 107 of 1997). According to the Constitution, the delivery of housing is a Provincial function although the function can be delegated or assigned to municipalities with capacity;
- the national **Department of Environment, Forestry and Fisheries** as recently reconstituted, is “mandated to give effect to the right of citizens to an environment that is not harmful to their health or well-being, and to have the environment protected for the benefit of present and future generations”¹⁷.

there is overlap, organs of state are required to cooperate to resolve conflicts. Overlaps exist with other Departments of government, e.g. Human Settlements, Agriculture.” (Urban LandMark, 2012)

¹⁷ <https://nationalgovernment.co.za/units/view/15/departement-of-environment-forestry-and-fisheries-deff>

- the national **Department of Public Works and Infrastructure**¹⁸ and its provincial counterparts are responsible for all land owned or controlled by the state for state domestic purposes, as per the Government Immovable Asset Management Act No 19 of 2007 and provincial land administration legislation and the State Land Disposal Act No 48 of 1961;

Department of Rural Development and Land Reform



Figure 1. Structure of government land information directorates under one of the branches within the national land department (source <http://www.ngi.gov.za/index.php/home/departmental-structure>)

- **Municipal Planning and Development Departments** responsible for the approval of subdivision, consolidation and layout of land under provincial and municipal legislation¹⁹. This was reinforced by the introduction of the Spatial Planning and Land Use Management Act (SPLUMA) of 2013;
- **Municipalities**, in general, are responsible for local development, planning, planning scheme adoption and zoning, and provision of municipal services

¹⁸ Public Works recently had infrastructure development added to its mandate.

¹⁹ This source notes that the Constitutional Court has established that municipal planning dealing with planning schemes zoning, subdivision and consolidation of land, township development and the like is a municipal function.

- **Conservation Authorities** responsible for
 - (1) Environmental Impact Assessments to ensure environmental concerns are addressed in development projects under the National Environmental Management Act No 107 of 1998²⁰; and
 - (2) protected areas according to the Protected Areas Act No 57 of 2003, and provincial legislation²¹.
- and, as a special case with its own specific history, the **KwaZulu-Natal Ingonyama Trust Board** in terms of the KwaZulu-Natal Ingonyama Trust Act No 3 of 1994 and being responsible for land previously vested in the KwaZulu homeland government²². (this section based largely on Urban LandMark, 2012)

The institutional landscape (or ecosystem) for land governance has been fairly fluid over the last year because of the rearrangement and rationalisation of the Cabinet of Ministers in November 2018. The way that this has affected the departments that were merged, or those that were paired under one minister, is still playing out. As indicated in the listing above, many of the departments that have core land mandates were very directly affected. The ways in which this will practically affect government delivery programmes and the realisation of the rights of residents remains to be seen.

Similarly the legislative context is constantly changing, going back to the promulgation of SPLUMA in 2013, and more recently because of new legislation signed into law (e.g. the Electronic Deeds Registration Systems Act 19 of 2019 a few weeks ago at time of writing) and legislation still under consideration (e.g. the Draft Expropriation Bill of 2019 - <https://pmg.org.za/call-for-comment/788/> and <https://pmg.org.za/bill/862/> and the amendment to the constitutional property clause mentioned above).

In answering whether there is clarity of mandates in practice, that is quite a large topic, with some overlap between provincial and municipal level functions (especially in planning and housing). There was a great deal more contestation around the overlap of mandates around spatial planning, and planning and building approvals, with a variety of planning routes (e.g. the Development Facilitation Act (67 of 1995), the Less Formal Township Establishment Act (113 of 1991) etc.) up until 2013 (refer discussion in South African Cities Network,

²⁰ The National Minister determines policy which is then implemented by provincial and municipal governments.

²¹ “The national act determines categories of protected areas and, other than national parks, protected areas administered by provincial governments.”

²² The Ingonyama Trust “Board [is] appointed by Minister of Rural Development and Land Reform. Land administered for the benefit of members of traditional communities that occupy the land under rules of customary law.”

Abrahams, & Berrisford, 2012) when this was partly clarified by the newly promulgated Spatial Planning and Land Use management Act (SPLUMA). However, because that is framework legislation those overlaps are still being resolved as regulations are being developed. This is quite an expert area and this report is not hazarding an opinion about progress in resolving overlapping mandates for land governance and information provision, nor the sum total of jurisprudence to date in advancing the (land-related) rights and principles enshrined in the 1996 Constitution. Later in this report we draw on the opinions of the expert panels convened to address specific topics as part of the South African LGAF process in 2011 and 2012, along with any other relevant information we were able to identify.

SPATIAL DATA

Another key dimension of the South African land ecosystem is who is responsible for various aspects of spatial data. A large part of the SA Matrix relates to online spatial datasets that are available for free or for a fee. Many of the base datasets that stand behind much of this part of the ecosystem are controlled by government under specific arrangements and as determined by the South African Spatial Data Infrastructure Act, 54 of 2003. Here we give a brief overview of this dimension of the ecosystem, and some of the recent developments in this area. Again, this area is a work in progress especially around the establishment of a national Spatial Planning Data Repository.

Although some of the following have already been mentioned, when it comes to spatial data, the key legislation as identified by South African Geomatics Council (SAGC, previously PLATO²³), the legal body with which all geographic informatics system (GIS) and surveyor professionals must register, filtered by relevance to this report, includes²⁴:

- Land Survey Act 8 of 1997
- Deeds Registries Act 47 of 1937
- Constitution of the Republic of South Africa 1996
- Expropriation Act 63 of 1975
- Extension of Security of Tenure Act 62 of 1997
- Interim Protection of Informal Land Rights Act 31 of 1996

²³ <https://sagc.org.za/6legislation.php>

²⁴ The date shown is the original promulgation date, with often many amendments to the acts having been implemented since then. All Acts and amendments available at <https://www.gov.za/documents/acts> and https://www.justice.gov.za/legislation/acts/acts_full.html

- National Environmental Management Act 107 - 1998
- Promotion of Access to Information Act 2 of 2000
- Sectional Titles Schemes Management Act 8 of 2011
- Spatial Data Infrastructure Act 54 of 2003
- Regulations in terms of Act No 54 of 2003 (Spatial Data Infrastructure Act)
- Spatial Planning and Land Use Management Act 16 of 2013
- Subdivision of Agricultural Land - Act 70 of 1970
- Electronic Deeds Registration Systems Act 19 of 2019

The international movement GSDI (Global Spatial Infrastructure Association) was a key influence behind the South African Spatial Data Infrastructure (SDI) Act 2003. GSDI motivated for every country to have its own spatial data infrastructure system through every vital dataset being gazetted and documented, and having a legal, state custodian. This vision is now being fulfilled by the Committee for Spatial Information (CSI) (as required in terms of the Spatial Data Infrastructure Act No. 54 of 2003) and the Department of Agriculture, Land Reform and Rural Development is the overall body responsible for the implementation of the SDI Act. However, this has become a contested space due to issues regarding custodianship, responsibilities and capabilities.

It is interesting to note that in government documents and state-commissioned research about the national spatial data infrastructure, the legislation that is cited is not only all of that that applies in some way to land, but also many of the pieces of legislation that have to do with access to information (as in the list quoted above).

The SDI Act provides for building South Africa's "Spatial Data Infrastructure" (then referred to as SASDI) overseen by a Committee for Spatial Information. This includes capturing and publishing metadata in an electronic metadata catalogue, and determining standards and prescriptions for the sharing of geospatial information (Schwabe & Govender, 2012).

According to Schwabe and Govender:

- "The [SDI] Act is not explicit in defining either criteria for core geospatial datasets or who data custodians should be. Where it is explicit is in defining what a base dataset and data custodian is. A base dataset is *those themes of geospatial information which have been captured or collected by a data custodian*. Thus, the emphasis is on the defining of the data custodians rather than the core geospatial datasets themselves.

- “The Act describes a data custodian as an *organ of state or an independent contractor or person engaged in the exercise of a public power which captures, maintains, manages, integrates, distributes or uses geospatial information*. The emphasis is therefore on organs of state that have a legislated responsibility of providing geospatial data. These data custodians are to form part of the CSI [Committee for Spatial Information].” (Schwabe & Govender, 2012, p. 30)(emphasis in original)

The report by Schwabe and Govender captures a set of discussions about who should take custodianship of various datasets. Where this is known and has been resolved, it is reflected in the SoLI Matrix for South Africa. And this is the significance of referring to certain state institutions (whether departments or state-owned entities) as the ‘custodians’ of certain datasets. The report goes into great detail in defining and naming the state’s ‘base’ datasets²⁵. In this context, they are referring to a sub-set of the SoLI’s scope of datasets, in that they are trying to identify (for the purposes of implementing the SDI Act), South Africa’s core *geospatial* datasets.

After collecting the views of stakeholders and researching the situation in a variety of other countries, the same authors settled on this provisional definition:

“Core geospatial datasets are those identified as the minimum²⁶ set of essential²⁷ datasets that are widely used as a reference base at various administrative levels to accomplish South Africa’s national and international priorities.²⁸” (Schwabe & Govender, 2012, p. 44)

From their research they listed what stakeholders and survey respondents identified as base datasets. Including repetition and duplication where it arose, the datasets identified by respondents included cadastral, geodetic, rectified imagery (satellite, aerial and raster topographical maps), administration boundaries, census data, hydrology, rivers, dams, catchments, roads, streets, road centre lines, land cover, land use, physical infrastructure, addresses, government services, health facilities, place names, topography, digital elevation models, human settlements, transport, vegetation, agricultural potential etc.

²⁵ “Datasets, which may be used for many different purposes and in many different applications, are often referred to as base data, core data, fundamental data or reference data” – Schwabe and Govender quoting United Nations Economic Commission for Africa’s 2003 Committee on Development Information.

²⁶ “Minimum refers to the smallest number or set of geospatial datasets.”

²⁷ “Essential geospatial datasets are those that are absolutely necessary or extremely important.”

²⁸ “It is assumed that core geospatial datasets will be those that are systematically or programmatically maintained to appropriate standards. It also refers predominantly to those core geospatial datasets that are mandated through some form of legislation, policy document or cabinet decision.”

They then worked this into a complex set of classified datasets than runs over five pages, but is a very useful reference list (refer Table 4, pages 48 - 52 Schwabe & Govender, 2012)²⁹.

Because the legal process of establishing each agency as a custodian is complex and not resolved in all cases (Table 5, pages 61ff in Schwabe & Govender, 2012), a more simplified version will need to suffice. The following diagram is a frequent element of public presentations by the Department of Agriculture, Land Reform and Rural Development, and indicates a simplified version of state datasets and their respective custodians.



Figure 2. SA government base datasets and data custodians (Department of Rural Development and Land Reform, 2018)

One of the key areas of activity (and debate) has been the establishment of a National Spatial Planning Data Repository (NSPDR). This seems to have arisen indirectly from some of the requirements of the SDI Act (2003). The earlier emergence of the idea can be traced back to:

- the Directorate: National Spatial information Framework (NSIF) was established in 1997 to drive the implementation of South Africa’s National Spatial Data Infrastructure, including developing a metadata repository and portal, and
- in March 2011 two of six sub-committees set up by the CSI shared responsibility for the formation of the NSPDR:

²⁹ We have included this table as an appendix because it helps suggest a useful taxonomy for spatial datasets - saved as “Appendix A - Table 4 from Schwabe and Govender 2012 SA Core Geospatial Datasets.pdf”

- “Data Sub-Committee: which will identify the fundamental or core data sets, deal with metadata issues, recommend which organisations should be data custodians and related matters.
- “Systems Sub-Committee: which will recommend the framework architecture for SASDI and system standards, and oversee the development of the technical systems for SASDI, such as the Spatial Metadata Discovery facility.” (Schwabe & Govender, 2012)

According to presentations in 2018 and 2019 made by the same Department³⁰, the enactment of the Spatial Planning and Land Use Management Act (SPLUMA) in 2013 mandated national government to develop mechanisms to support and strengthen the capacity of provinces and municipalities. This increased the urgency to establish what is being referred to as the “National Spatial Planning Data Repository (NSPDR) Ecosystem” (Department of Rural Development and Land Reform, 2018).

The origins and intentions of the national repository are further described at <http://nspdr.info/docs/about.html> (Matrix Ref 14) and (refer Department of Rural Development and Land Reform, 2019)

Although the plans and stated intentions are in place, it is unclear when this national spatial data repository will be operational. From the website about the NSPDR, the following commitment is made:

- “The DRDLR³¹ has already completed the User Requirements Specification (URS), Functional Requirements Specification (FRS) and Technical Specification making it possible to start with the construction of the NSPDR Ecosystem modules. The ESRI South Africa and Agizo Solutions Joint Venture (JV) will develop and maintain a central repository that utilises spatial data for spatial planning, monitoring, evaluation and coordination purposes over a period of five years.” (<http://nspdr.info/docs/about.html>)(accessed online Nov 2019)

As mentioned earlier, the ecosystem is broad and complex, and so far we have only referred to the directly government-controlled dimension of the ecosystem and focused mostly at national level.

³⁰ Now called the Department of Agriculture, Land Reform and Rural Development - <https://nationalgovernment.co.za/units/view/427/department-of-agriculture-land-reform-and-rural-development-dalrrd>

³¹ Department of Rural Development and Land Reform, now renamed to include Agriculture.

So, an essential disclaimer is that the scan by the CSIR of land information available in South Africa is essentially not exhaustive because of the size of the land information ecosystem, because of the broad scope of the scan, because of the many actors (public, private, civil society) who are the developers and custodians of data sets, platforms and DSSs (decision support systems), because of the local nature of (for example) land use planning data (hence the plethora of local datasets over the 278 municipalities in the country), and because of the fluid legal and institutional context described above. Added to this, a number of online repositories identified and documented in another scan only five years ago no longer exist or their content has not been maintained beyond a certain date³². Therefore, this scan is at best a reasonably current snapshot of a portion of the online datasets and the ecosystem surrounding that.

TENURE

By way of introduction to tenure issues in South Africa, the following summary is helpful in providing context.

- “Historically, indigenous South Africans were substantially denied tenure rights. Many resided on land set aside and held by parastatal trusts, commonly referred to as communal or tribal land. This legacy has persisted into the democratic (post-1994) era in South Africa, with government yet to adopt appropriate tenure reform legislation. Despite this shortcoming, communal land is managed and administered in accordance with the tenets of customary law. Tenure reform on communal land has been particularly controversial and politically sensitive.
- “Land tenure varies according to the type of area in which the land is located. In rural areas, land situated in former homelands is communal land, administered by a traditional council, with communal tenure and plots registered in the name of the state. Rural farmland is mainly owned by whites; land is surveyed and titled under freehold. Despite the land redistribution programme, equity has been slow to accomplish. Land redistribution usually involves title under corporate tenure.
- “This racially discriminatory and fragmented land tenure system has been difficult to dismantle. Race and class distinctions are still built into the spatial landscape of the country. Formalisation of tenure is slow in informal areas. As a result, many people living in urban areas continue to experience tenure insecurity despite some legal protection through anti-eviction legislation.

³² When a dataset is still available online but content has not been updated, this is noted in the SoLI Matrix.

- “Tenure in South Africa falls into one of three broad categories:
 - Established tenure (in formal, mainly urban areas)
 - Evolving tenure
 - Emerging tenure.
- “Established tenure is registered and secure, whereas emerging tenure is not registered and is insecure. (Kitchin & Ovens, 2013) (with more detail available in Ovens, 2012)

In terms of charting out the many forms of tenure that exist and co-exist over land in South Africa, much work has been done by Peter Rutsch. In the 2013 Land Governance Assessment Framework report for SA, this is summarised in table form (Ovens, 2012, p. 18ff) and repeated here for reference.

Table 2. Forms of tenure that exist and co-exist over land in South Africa

| Tenure Sub-Categories | Legal Recognition | Registered or Recorded | Comments |
|---|---|---|---|
| <i>ESTABLISHED TENURE PUBLIC AND PRIVATE OWNERSHIP/USE</i> | | | |
| Unsurveyed state land | Common law recognition | Not recorded – identified by omission or gap in cadastre. | All land not shown on a diagram and not registered in the Deeds Registry under the common law vest in the state. |
| Freehold (full ownership) | Section 25(1) of the Constitution of the Republic of South Africa protects right to property, which includes land. Land Survey Act 8 of 1997 and Deeds Registries Act No 47 of 1937. Also common law rules. | Registered in Deeds registry and identified by diagram approved by Surveyor General | Full real rights with full range of entitlements. These can be allocated to others with the right at all times to ‘right of reversion’. Under land tenure reform legislation, certain categories of occupiers of another’s land are given rights to the land adverse to the registered owner. This intervention diminishes the ownership rights of a registered owner in favour of the occupier who acquires rights to the land adverse to the registered owner. To that extent, freehold ownership is not held to the exclusion of all others. |
| Lease | Common law, with provision, introduced by statute, to register long leases to protect successor in title or creditors of the lessor without knowledge of the lease. | Formalities in respect of Leases of Land Act 18 of 1969 to register leases or 10 years or longer. | Well-developed legal framework |
| Servitude | Common law, Land Survey Act 8 of 1997 and Deeds Registries Act No 47 of 1937. | Contract between parties. Real rights where servitude is registered against title to land in favour of other land without reference to ownership. | Used extensively to secure right to lay services, e.g. water, electricity, rights of way etc., and generally to exercise rights over another’s land. Useful where access to land required without conferring full ownership. Also usufruct, habitatio and usus – right to |

| Tenure Sub-Categories | Legal Recognition | Registered or Recorded | Comments |
|-------------------------------|------------------------------------|--|---|
| | | Personal right if in favour of an individual. | use land and enjoy benefits (fruits) |
| Sectional Title ³³ | Sectional Titles Act No 95 of 1986 | Registration of sectional unit (within a building or complex) and share in common property | Used extensively for urban residential purposes, managed by body corporate representative of sectional unit owners. |

EVOLVING TENURE COMMUNAL TENURE AND OTHER PEOPLE'S LAND

| | | | |
|---|--|---|--|
| Rights to land under customary (indigenous) law | Section 211 of the National Constitution; Contractual / statutory relationship between registered landowner and holder of rights; Interim Protection of Informal Land Rights Act No 31 of 1996 (IPILRA). | <p>Land on which this form of tenure is exercised is usually registered in the name of the Minister of Rural Development and Land Reform, the Ingonyama Trust (in KwaZulu-Natal) or some other organ of state. Occupiers on such land have no registered rights but hold multifaceted vested rights based in customary law and practice enforceable against the registered owner which are usually recorded in the collective mind of the community where the land is situated, according to the current customary law tenets of that community. A person who holds an informal right to land as defined in IPILRA may not be deprived of that right save with his or her consent or by expropriation if required in the public interest or for a public purpose (in which compensation is payable). If deprivation is consequent on a community decision that decision must be supported by a majority of those who hold such rights in the area concerned, subject to payment also of compensation.</p> | <p>This tenure arrangement is applied by traditional communities throughout South Africa on land generally vested in the Minister of Rural Development and Land Reform or, in KwaZulu-Natal, in the Ingonyama Trust. Since commencement of the colonial era, the land was annexed to the state or quasi state entity and the indigenous tenure system has been applied on such land under legal circumstances requiring the registered owner to permit such occupation. This may be a statutory trust or condition providing that the land must be used for the benefit of the people occupying it. The indigenous tenure system was distorted and to an extent suspended during the colonial and apartheid era but under the 1996 Constitution is deemed to be part of the common law and fully enforceable. It is an evolving, dynamic system. Note must be taken that the indigenous law must be interpreted without insidious influence of received common law or foreign legal systems. Note must also be taken of the social dimension which confers multi-layered rights to the use and occupation of land on various members of a household depending on their status and social position within the family as well as between such households as components of a community, traditional or otherwise.</p> <p>Non-members obtain leases or Permissions to Occupy (PTO) from the land owner with the consent of the traditional leadership. (PTOs however are becoming obsolete but existing PTOs may be upgraded to freehold tenure in terms of the Upgrading of Land Tenure Rights Act No 112 of 1991). Section 25(6) of the National Constitution entitles all to tenure which is legally secure, Parliament must adopt legislation to do just that.</p> |
| Occupation Rights adverse | Extension of Security of Tenure Act No 62 | These Acts confer rights on persons occupying land registered in the name of another | These Acts are part of land tenure reform in response to section 25(6) of the National Constitution stating the |

³³ Share Blocks do still exist in South Africa and are governed by the Share Blocks Control Act 1980. However, it does not provide tenure as the building is owned by the company and the shareholders have rights vis-à-vis the company.

| Tenure Sub-Categories | Legal Recognition | Registered or Recorded | Comments |
|-------------------------|---|--|---|
| to the Registered Owner | of 1997, Land Reform (Labour Tenants) Act No 3 of 1996 and Interim Protection of Informal Land Rights Act No 31 of 1996 | person with consent, express or tacit. These rights are personal but can be converted to real rights in certain circumstances, i.e. by formalizing occupation rights. | right of all South Africans to tenure to land which is legally secure. South Africa does not have any policy, let alone a clear cut policy, on the place of occupiers of land owned by others, including, critically, farm workers. Historically, people, particularly black people, are scattered over the myriad of farms and other land parcels all over the country. Should they be herded into agri-villages, should they be co-owners of the land they occupy, should they migrate to urban centres? How will municipal services such as water electricity, transport etc. be extended to them? Current generations of these occupiers are often unsophisticated farm occupiers but their descendants will have acquired education, been exposed to new ideas and will have developed expectations that must be met. The obvious tension that will inform such policy is the need for food security, i.e. that agriculturally productive land must produce agricultural surpluses to feed the population. But within that requirement, is it necessary to have large discreet land holdings or can one have smaller units, locally recorded and registered without the complexity of freehold tenure but managed crop-wise collectively under state managed circumstances? |
| Communal land | Communal Property Association Act No 28 of 1996, common law linked to Trust Property Control Act No 57 of 1988 | Land registered in the name of an entity owned by the members of a 'community', e.g. a Communal Property Association (CPA) or a trust established under the common law but regulated by the Trust Property Control Act, [Note that it is also possible for land to be registered in the name of a company, be it a public company with a large number of shareholders, a private company with a limited number of shareholders or non-profit company, as well as a close corporation, a co-operative or a partnership. In most cases where these entities are used, there is an underlying commercial purpose or a closely related family purpose. That is not to say that they cannot be used for a land reform related purpose, or a purpose for the benefit of the poor. But that is not common.] | 'Communities', other than communities bound together by clan affiliation, are defined under various laws mainly related to land reform programmes. 'Communities' are also created where land is transferred to a community of farm workers who happen to be residing on a farm at a given point in time. Experience appears to indicate that the level of success where land is transferred to such communities through either a CPA or trust is minimal, depending on how one defines 'success'. Used solely for residential and subsistence farming purposes, reasonable success may be expected. That places minimal strain on the collective decision making requirements of the entity. However, if used for income generating commercial purposes, success is dependent on the degree to which the members of the community are able to muster or buy in the sophistication, the knowledge, the experience and the commitment to engage in such activity. It is also dependent on the extent to which the members are a community bound by a commitment to work together for a common aim. Such bonding is, experience indicates, in short supply. South Africa's land tenure system and its laws are designed for a first world reasonable income user. It is not designed to cope with the emerging low to middle income individual and does not provide ready devices to house such persons, community or otherwise, in an affordable, understandable and acceptable format. There is a need for debate on adequate land tenure models, not necessarily predicated on ownership as described elsewhere in this matrix, which are affordable, understandable and above all acceptable to the majority of people in this country. A proper |

| Tenure Sub-Categories | Legal Recognition | Registered or Recorded | Comments |
|-----------------------|-------------------|------------------------|----------|
|-----------------------|-------------------|------------------------|----------|

investigation, backed by empirical research is also needed to decide to what extent South Africans are, indeed, married to the notion of communal occupation of land, particularly in the rural context, and precisely what is meant by communal occupation of land.

EMERGING TENURE INFORMAL URBAN SETTLEMENTS

| | | | |
|---|--|---|--|
| <p>Usually located in urban or peri-urban settings, initially totally insecure informal settlements leading by administrative action along a continuum to freehold tenure or a suitable stop on that continuum.</p> | <p>Sections 25 (Land Rights) and 26 (Right to Housing) of the Bill of Rights contained in the National Constitution; Constitutional Court judgments (e.g. Grootboom, Modderklip); Administrative law; common law (esp contract); Land Survey Act; Deeds Registries Act; provincial and municipal planning and development legislation and zonings; municipal service laws; Prevention of Illegal Evictions from and Unlawful Occupation of Land Act No 19 of 1998.</p> | <p>Initially – administrative recognition by municipality concerned.</p> <p>Subsequently (1) – contractual right awarded to informal occupiers to occupy identified portion of unsurveyed land. Subsequently (2) – informal survey of sites allocated to informal occupiers with some services.</p> <p>Subsequently (3) – formal national housing programme development with freehold rights.</p> | <p>South Africa has a massive backlog in housing and many citizens live in informal settlements. In general, the location of such informal settlements, from the perspective of the ownership of the occupied land, geotechnical aspects, municipal service provision, proximity to amenities and the like determine whether the settlements are upgraded in situ or at another location. The Bill of Rights contained in the Constitution gives everyone a right to housing which the Constitutional Court has interpreted to say that a municipality must in good faith adopt plans and programmes to house all persons in its area, especially the poor residing in informal settlements. That imperative imposes on municipalities the duty to seek innovative ways and means to respond to such informal settlements and they do so in various ways. Studies by, for example, Urban LandMark (Incrementally Securing Tenure (2010)) indicate an evolutionary process whereby such settlements develop on a continuum which can, but need not necessarily, culminate in freehold tenure but provide adequate shelter, basic services and a form of tenure security. Such studies suggest an incremental process of securing tenure rights, utilizing special use zones, administrative processes to record rights, manage and identify individual household sites. Depending on need, demand or circumstances such a process can be stalled at any stage, temporarily or permanently, or lead to ultimate township establishment and individual freehold tenure. Empirical evidence suggests that holders of formal land tenure rights in low income housing projects ignore land survey and deeds registration requirements when transacting land in an emerging market and do so informally, witnessed by prominent community members, in accordance with traditional or acceptable practice. Systems and processes need to be adopted which recognize that phenomenon and adapt the laws to include such persons. Transferable rights to a particular informal site, demarcated by GPS or similar device, locally administered by accessible administrators without undue formality and bureaucracy should be introduced. Critical criteria could include the ability to transfer rights by inheritance or sale, to defend rights to the site against others, to identify locations to which services can be provided and where municipal land taxes can be recovered (if any).</p> |
|---|--|---|--|

The SoLI Research Guide asks for comment on laws and policies that have to do with recognition of land tenure (in *any* form) specifically focusing on land rights applying specifically to gender, indigenous, community, and pastoral rights.

As documented earlier, the 1996 Constitution, especially Section 25 (6) of the Bill of Rights, seemed to promise enhancement and upgrading of tenure. This has not yet been effectively achieved (Bienart & Delius, 2017) and a range of civil society and community-based organisations continue to call for progress in the reform process³⁴.

Relating to Section 25 (7) of the Constitution, which states that “a person or community dispossessed of property after June 1913 as a result of past racially discriminatory laws or practices is entitled, to the extent provided by an Act of Parliament, either to restitution of that property or to equitable redress”, the following laws have reference:

- The Interim Protection of Informal Land Rights Act 31 of 1996 (IPILRA)
- The Land Reform (Labour Tenants) Act 3 of 1996
- Extension of Security of Tenure Act (ESTA, 62 of 1997) (ESTA)
- Prevention of Illegal Eviction (PIE Act 19 of 1998) (PIE)
- Restitution of Land Rights Act of 1994
- Upgrading of Land Tenure Rights Act (1991, restated with amendments in 1996 and 1998)
- Communal Land Tenure Bill, 2017

In late July 2016 the Constitutional Court declared invalid the Restitution of Land Rights Amendment Act. One reason was that traditional leaders had been vocal in opposing alternatives to the traditional councils they head for purposes of administering the land (Merten, 2018). A revised Communal Land Tenure Bill was released for public comment in July 2017 (<https://pmg.org.za/call-for-comment/570/>)³⁵.

“Land tenure may be insecure when land rights-holders are uncertain that their rights to land will be upheld in the face of challenges to those rights. Security of tenure is improved when land rights are recognised as legitimate by relevant stakeholders, and legal by the State [11]. In South Africa, land tenure security is a problem for four categories of land rights-holders:

³⁴ More about this later.

³⁵ See also a media piece on the Bill - <https://www.businesslive.co.za/bd/national/2018-05-29-new-bill-aims-to-move-land-from-traditional-leaders-to-the-people/>

- Farm labourers and their families living on privately owned land,
- People living on former mission stations – the so-called ‘coloured rural areas’,
- People living in situations of insecure tenure in urban areas, such as informal settlements and backyard dwellings, and
- People living under customary tenure systems in the rural areas of the former Bantustans, – the so-called “communal areas”.” (Hull & Whittal, 2018)³⁶

Commenting on gender and land tenure, the LGAF South Africa report summarised the situation:

- “South Africa performs well in terms of gender and land, with women representing well over 45% of land registered to individuals. South Africa also performs well on registration of individual properties in urban and rural areas. However, challenges persist around tenure issues in traditional areas and informal urban areas. These relate to difficulties and expenses in accessing professional and legal services, and gaps in legislation or its enforcement. The implementation of land policy is not being effectively monitored or resourced. Major problems exist in the lack of surveying of communal land and in the high costs associated with registration and transaction of urban property.”(Kitchin & Ovens, 2013)

For a more detailed discussion of what gender and ownership patterns reflected in national statistics imply, refer pages 27 and 28 of the full LGAF country report (Ovens, 2012).

Women’s land rights are recognised by law through the Constitution, statute, common law and increasingly, the ‘living customary law’. Therefore, in the case of title registration, there are no legal obstacles to registering title in the name of women in South Africa. Policies in both the land and housing sectors explicitly discourage gender discrimination in land ownership. (Kitchin & Ovens, 2013)

In the 1996 Constitution, gender equality is established as a basic principle in the first clause of Chapter One (Founding Provisions), which states that (CGE, 2009):

³⁶ This article is a good summary of current progress in passing legislation to enhance land rights of currently vulnerable people.

- “non-racialism and non-sexism are founding values, along with human dignity, equality, the advancement of human rights, the rule of law, universal adult suffrage and a multiparty and democratic system of government”³⁷

On indigenous land rights, the well-known case of *Alexkor v Richtersveld Community* (2003) refers. In this case, the Constitutional Court ruling was that, “We have found that the Richtersveld Community held ownership of the subject land under indigenous law”. However, the court dealt only with collective indigenous ownership.

While the Constitution of South Africa recognises traditional rights and traditional tenure, there is as yet no legal mechanism to register communal or indigenous land. Instead, the state holds this land in trust for the communities. There are temporary laws in place to ensure rural tenure rights in communal land areas. (Kitchin & Ovens, 2013)

Indigenous/Customary vs Communal - The conflation of “communal” and “customary” is attributed to misconceptions about customary land tenure by colonial authorities. “Because colonial governments did not find conceptions of land holding that were equivalent to that of fee simple or exclusive land ownership among colonized peoples, it was assumed that landholding [sic.] was vested in the community”, whereas land rights may actually be either individualised or communal. Despite empirical evidence that “customary tenure is not exclusively communal”, the “communal paradigm” persists in land policies and legislation. (Hull & Whittal, 2018)

On community land rights, traditional communities are recognised under the Traditional Leadership and Governance Framework Act No. 41 of 2003. Non-traditional communities, especially land reform beneficiaries to whom land is transferred (Common Law Trusts or Communal Property Associations), are recognised under the Communal Property Associations Act No. 28 of 1996. (Kitchin & Ovens, 2013)

Just to reiterate, the Communal Property Associations Act 28 of 1996 enables communities to form juristic persons known as communal property associations in order to acquire, hold and manage property on a basis agreed to by members of a community in terms of a written constitution.³⁸

³⁷ CGE (Commission for Gender Equality), A Gendered Analysis of Land Reform Policy and Implementation Outcome in South Africa (2006 – 2008/09), 2009 Commission for Gender Equality, accessed at <http://www.cge.org.za/wp-content/uploads/2014/05/LAND-STUDY-COMPREHENSIVE-REPORT.pdf>

³⁸ <http://www.mondaq.com/southafrica/x/175986/Land+Law/>

The+Real+Estate+Law+Review+Introduction+To+The+Legal+Framework

On Communal Property Associations - 1 809 856 hectares have been transferred nationwide to communal property associations (CPAs) and trusts in post-democratic South Africa, with the biggest transfers taking place in KwaZulu-Natal (Herman, 2017)

Interim Protection of Informal Land Rights Act (IPILRA)(1996) applies to so-called communal areas. While this is a very good piece of legislation, it is interim legislation and needs to be renewed every year. It is also little-known and oft-overlooked by developers. Despite over two decades of democracy and the State's obligation under Section 25(6), there is currently no permanent legislation providing tenure security for people living in so-called communal areas. (Hull & Whittal, 2018)

A whole LGAF expert panel report just on land tenure (with excellent panellists) is available, and contains a great deal of contextual detail along with the opinions of the panellists about the situation as it was in 2011 (Abrahams, 2011). The notes above about the report of the Presidential Advisory Panel on Land Reform and Agriculture brought the situation up to date, and one of the panellists (Prof Ruth Hall) sat on both panels (i.e. the 2011 LGAF panel and the 2018/ 19 President's panel).

INHERITANCE

We have briefly discussed patterns of land ownership according to gender. Shortly after the inception of democracy in SA, an observation was made in the 1997 White Paper on Land Reform:

- "The most widely recognised form of discrimination is that practised under tribal and communal tenure...under private tenure women are discriminated against in terms of family law and inheritance provisions."

South Africa is committed to pursuing the fulfilment of the Sustainable Development Goals, with Goal 1.4 on poverty committing to

- "by 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, *ownership and control over land and other forms of property, inheritance*, natural resources, appropriate new technology and financial services, including microfinance" (emphasis added)

Relating to the current situation of women's rights in marriage and in inheritances, the LandNESS Country Assessment report sums up the situation:

- "In South Africa the implications of marriage and inheritance for property rights are complicated by legal pluralism in land law, family law and succession law. Gender relationships cut across all of these. There is hence no uniform system but a number of intersections and hybridised arrangements on the ground. Kinship and descent systems continue to influence how property rights are held

and transmitted. Gendered relationships are inextricably entwined with property relations, which are reflected most explicitly in the way property is passed on between generations, i.e. who in the family are regarded as rightful successors or heirs to the property.

- “Women who choose to marry according to civil law can follow the common law rules of succession which entitle direct inheritance by a spouse and children of any gender. The details differ according to whether she marries in community of property or by means of a prenuptial contract, and whether there is a will. However, for many black women the matter is not so clear-cut. Many marry according to customary law where succession and inheritance are different from common law. Conversely, many women who marry by civil law are influenced by customary norms of succession. The landmark Bhe Judgement ruled that the common law must apply, pending the development of an acceptable customary law of succession that does not discriminate against women or other members of the family. The Intestate Succession Law 81 of 1987 is therefore applicable to all South Africans. This has proved to be controversial, since in reality people continue to follow customary norms of succession; and the Bhe judgement is not systematically enforced (Kingwill, 2014; Himonga, C. 2005. ‘The Advancement of Women’s Rights in the First decade of democracy in South Africa: the Reform of the Customary Law of Marriage and Succession’. *Acta Juridica*, 2005, 82-107; Mbatha, L. (2002) ‘Reforming the Customary Law of Succession’. *South African Journal on Human Rights*, 2002, 259-286.
- “In short, the issue of the inter-linkage between marriage and succession law in South Africa is in urgent need of consultative reform to bring practice in line with law and the Constitution, rather than trying to impose a legal framework that many people simply side-step.” (Kingwill, 2018)

The LGAF report echoed the position just outlined above:

- “Women’s land rights are recognised by law through the Constitution, statute, common law and increasingly, the ‘living customary law’. Therefore, in the case of title registration, there are no legal obstacles to registering title in the name of women in South Africa. Policies in both the land and housing sectors explicitly discourage gender discrimination in land ownership. In practice, however, the situation is extremely complex, for several reasons. These include historical legacies of gender discrimination, which carry over into current practices in both customary contexts and new formal housing projects. Consequently, ‘registered rights’ are a weak (or misleading) indicator of land governance in South Africa at this stage in the country’s history.” (Kitchin & Ovens, 2013)

The report of the Presidential Advisory Panel on Land Reform and Agriculture raised gender and inheritance both from an historical contextual point of view and in its recommendations of what needs to be addressed 'going forward'. The panel report, in its "emerging recommendations" section, calls for the following:

- "1. In as much as customary law is adaptable and resilient, it should be developed to suit modern day challenges and to eradicate patriarchy.
- 2. Ensure that the land law recognises individual women's rights.
- 3. Document customary law tenure systems.
- 4. Make statutory provision for the joint registration of customary land rights where this will be to the benefit of women.
- 5. Merge marriage and inheritance laws so that they do not place women at a disadvantage.
- 6. Streamline the surveying and registration of unallocated and un-surveyed land." (Mahlati et al., 2019, p. 46)

The issue of inheritance by orphans is particularly relevant in a country where in 2008 there were an estimated 56,000 child-only households and in 2011 it was estimated there were 2 million AIDS orphans. The call was that these matters be considered when revising the South African inheritance and tenure systems. (Kitchin & Ovens, 2013)

TAXATION

The laws and policies governing property tax law and policy, along with municipal valuations, are complex. The system also presents opportunities for land-based finance with the potential to fund more inclusive urban and regional development (for urban land-based finance, refer National Treasury, 2018).

The national law on municipal property rates sets the framework for taxation, and then leaves the property valuation and the calculation of the tax to the local municipalities. In principle, if you formally own property you should be paying property rates related to the market value of the real estate (i.e. not just the value of the land as previously). The Municipal Valuation Roll contains the valuations calculated by each municipal. There is room in the legislation for exceptions, as discussed further below.

The LGAF panel report explains the principles of the legislation thus: "In South Africa, the core legislation for the management of property valuations is the Local Government: Municipal Property Rates Act, No 6 of 2004 (MPRA). The core provisions of the Act include:

- regulating the power of a municipality to impose rates on property

- a transparent and fair system of exemptions, reductions and rebates through rating policies for implementation by municipalities
- the exclusion of certain properties from rating in the national interest
- a fair and equitable valuation methods
- an objections and appeals process.

“Municipalities are required to determine a rates policy which is subjected to a public participation process in terms of Section 4 of the Municipal Systems Act and the Municipal Finance Management Act. Once adopted, the municipal property rates are calculated by multiplying the market value of the immovable assets [including lands and buildings]. Section 32(1) of the MPRA states that a municipality’s valuation roll remains valid for a period of four municipal financial years.” (Eloff et al., 2011)

In 2009, Urban LandMark and the SA Cities Network commissioned research on how the rates policy was applied to, and was affecting, people living in poorer parts of cities (Isandla Institute, Palmer Development Group, & Tshangana, 2009). The report presented early research on how cities were applying the, at the time, fairly new rates policy. It discussed some alternative ways to shape municipal rates policies (especially those addressing rebates, exemptions and reductions) to target vulnerable groups to reduce or remove their liability for property rates. The emerging (and now more common) practice was to apply blanket exclusions of neighbourhoods from rates collection where the average property value fell below a certain individual property value threshold (anything between R15,000 and R150,000 at the time). This had the advantage of reducing the administrative costs (e.g. of collecting bad debts) but then as property values increased it became more difficult to implement property rates collections in those neighbourhoods meaning a growing amount of revenue forgone. The issue of growing the property rates bases of cities is particularly topical as the consumption of utilities (e.g. electricity) traditionally supplied by many municipalities (and representing a significant source of local revenue³⁹) reduces as more affordable forms of renewable energy become available. This places added pressure on other forms of local revenue collection, such as property taxes, to keep municipalities financially afloat, which is a pressing issue in South Africa with many municipalities struggling to remain viable.

DATA AND INFORMATION

The section above that dealt with “the importance of transparency in land data and information” discussed the general principles in law and policy that govern access to

³⁹ Refer to the Municipal Money platform/ dataset at <https://municipalmoney.gov.za/>

information. This included the Constitutional right to access to information held by the state and others.

The overarching legislation that governs keeping of, and access to, land tenure records (title deeds in our case) is the Deeds Registries Act No 47 of 1937 and related regulations⁴⁰.

As a useful opening comment, the LandNESS Country Assessment Report observes that:

- “There is more access to information in South Africa than most African countries. The Promotion of Access to Information Act 2 of 2000 (PAIA) obliges the state to make unclassified information available to the public. However, the quality of general statistical information on land tenure, governance, redistribution and restitution is vague, contradictory and unreliable. It is difficult to draw conclusive statistics from the information, which impinges on policy formulation. See Ben Cousins, 9 March 2018. ‘South Africa’s land debate is clouded by misrepresentation and lack of data’ (<https://theconversation.com/south-africas-land-debate-is-clouded-by-misrepresentation-and-lack-ofdata-93078>)” (Kingwill, 2018, p. 34)
- On public access to land data, they say, “The Promotion of Access to Information Act 2 of 2000 ((PAIA) gives effect to the constitutional right of access to any information held by the State and any information that is held by another person and that is required for the exercise or protection of any rights. The Act is generally regarded as effective.” (Kingwill, 2018, p. 35)

As mentioned earlier in this report, there is also a useful discussion of the principles of open access to data and transparent government in the LandNNES discussion document “An overview of South Africa’s Land Data Ecosystem for a People Centred Land Governance system” (Manona, 2019).

A review of the SA registry and cadastre in 2011, commissioned via the World Bank, gave the following context, and opened a discussion about access to property data:

- “The records of deeds registries and surveys have generally been publicly available in countries with the British administrative tradition, such as South Africa, Australia, New Zealand and Canada. In the past, there were few concerns over privacy regarding ownership of property (and associated financial affairs, such as the existence of a mortgage and its value). This is because the medium of paper records limited access to information – searching for the information took a great deal of time, even where good indexes were maintained. However, with

⁴⁰ See <https://www.gov.za/documents/deeds-registries-act-26-may-1937-0000> for the original act and then all the amendments right up until 2013

the advent of digital forms of creating, storing and searching property records, it is possible to easily, quickly and cheaply gather large amounts of information on individuals or groups regarding their properties and associated financial affairs. As the number of items of information collected by the Deeds Registry and other agencies expands – some of it directly as a result of the reforms proposed in the Green Paper – the risk for misuse or invasive practices increases.”

- “Concerns over privacy of land related information and the levels of public access to that information vary from country to country. In countries of eastern Europe, for example, public access is often restricted so that while a person can find out details of the property and even the owner, he or she cannot find information on mortgages. Information is given on one specified property only and aggregate data is not available to the public. There is also often a requirement to provide identity information so that it is known who made the enquiry. In England, it was possible to obtain details on a property only with the owner’s consent until 1991. In other countries, such as Australia, full access to all items of information is still available, but every person is made aware before a document is registered that his or her data will be open for public inspection.”
- “Concerns over privacy of land related information and the levels of public access to that information vary from country to country. ... Although privacy concerns were not rated as a high priority issue during discussions with the consultants [in South Africa], as the property records expand and as more and more information is gathered, the issue is likely to cause greater public concern. There are many examples from around the world that can be used as precedents as South Africa attempts to balance the opposing concerns of open access to data (which is an important element of a well-functioning open land market) and the desire of land owners to have their private affairs remain private.” (Adlington & Lamb, 2011, p. 28)

With the promulgation of the Privacy of Personal Information Act, 2013 (popularly referred to as the POPI Act, pronounced ‘poppy’), there is ongoing debate about the balance between open access to information associated with property ownership records (i.e. deeds of grant and deeds of sale) and the right to personal privacy. The Electronic Deeds Registration Systems Act, 2019, is now a reality (as anticipated by Adlington and Lamb in their discussion quoted above) and this affects direct access to deeds, rather than just the records of transactions that are already digitally captured.

In the Parliamentary debates about the Electronic Deeds Registration Systems Bill (i.e. prior to its recent promulgation), the issue of privacy was frequently mentioned⁴¹. Comments as examples of the discussion were as follows.

- Law Society's response "Regarding personal information, the nature of the information in the deeds office made it personal, and there had to be a justification for accessing information. The information in the deeds office was public information, but if it was used for a completely different purpose, then regulators would disagree with using that information."
- "On clause 2.2 -- retention of protection of personal information and subsequent production of documents -- Lightstone Property said that the Protection of Property of Information Act (POPI Act) provided protection of personal information for secure retention. The Department agreed, and indicated that one of the mandates of the deeds office was to keep public information for public access, as it was a public office, but should take cognisance of the POPI Act."
- The other comment was from Lightstone Properties on clause 4, where they indicated that the user of the EDRS [Electronic Deeds Registration System] must be registered in a prescribed manner, but there should be no further information in relation to the use of data, so other users may access data in the EDRS with more certainty. The Department said the purpose of the bill was to provide administration functions electronically, that access to data was regulated by the Deeds Registry Act, and the bill had no impact in that regard. Clause 4 does not deal with access to data electronically, but clause 5 does make provision for the regulations board to make provision with regards to access of data electronically.

For further information about the implications of the new Act, see also

<https://www.schoemanlaw.co.za/the-electronic-deeds-registration-systems-act-aims-and-objectives-and-does-it-bring-change/>

- "The Electronic Deed Registration System (e-DRS) / e-Commerce system is intended to provide for electronic deed registration and finds application to registration, execution and filing of deeds and documents as prescribed by the Deeds Registries Act No. 47 of 1937 (the "Deeds Registries Act") as well as the Sectional Titles Act No. 95 of 1986 (the "Sectional Titles Act"). The e-Commerce system aims to streamline the process of preparation and lodgment of deeds as well as the processing of deeds and documents by the Registrar of Deeds, by

⁴¹ <https://pmg.org.za/committee-meeting/27275/>: Electronic Deeds Registration Systems Bill: public hearings; Communal Property Associations Annual Report; Rural Development BRRR; with Minister and Deputy Minister, Rural Development and Land Reform, 17 October 2018

moving away from the traditional method of having to manually attend to the Deeds Office. With the ever-growing need for computerisation and digitalisation, the e-DRS looks to employ internet-based systems and to eventually discontinue registration procedures which are currently regulated by the Deeds Registries Act and the Sectional Titles Act.”

Note: we still have to find out where exactly the principle of public access to deeds information arises from, and whether it is under any kind of threat, and which side to fall on – we are going to come back to the deeds registry in a devoted section, but in this LPI section it’s important to establish the principle – is the Register open access or not (even if there’s a fee involved), and especially seeing we’re going into the electronic deeds era now with the new act

GAPS

In describing the legal, policy and institutional framework for South Africa⁴², a non-expert opinion is that there are not many large gaps in legislation (the country has been very active in developing laws, policies and programmes over the last quarter century). Society and the courts have also been testing the efficacy and constitutionality of many of the new laws and policies. The challenges lie more in the areas where there are overlaps in mandates, lack of clarity about implementation, and challenges in capacity of government to implement (at all levels, but especially municipal). This limits the degree to which well-intentioned laws and policies are capable of serving as the vehicles for the delivery of benefits to the most vulnerable.

The Presidential Panel on Land Reform (Mahlati et al., 2019) and groupings like LandNESS (Harding & Del Grande, 2019; Kingwill, 2019; LandNNES, 2018; Manona, 2019), are calling for more fundamental reform of the land administration system so that it is more inclusive of all types of tenure rights, that it caters to all people living in the country, and that the system of recordal of rights becomes more appropriate, affordable and accessible.

CONCLUSION TO LAWS, POLICIES AND INSTITUTIONS

Government is generally well-intentioned and effective in making data and information available. We have written elsewhere (Napier, Sebake, & Rajab, 2018) however, that more work needs to be done in establishing more consistent protocols and effective practices that make information reliably available over longer time periods, more interchangeable (shareable across platforms), and with less duplication of effort.

As we have seen, the move is in the right direction for the sharing of spatial data. Hopefully we can see this also advance in the more general sharing and accessibility of, for example,

⁴² And there are many aspects not yet touched on, and that are addressed briefly in their relevant sections below (e.g. disputes etc.)

data from the range of departments that deal with analysis, plans and delivery, so that the state does effectively become more open, transparent, and accountable⁴³.

As far as whether the policy framework is well known to actors dealing with land, the best summary of expert opinion on this would be the 2013 Land Governance Assessment Framework. The summary of strengths and weaknesses in the system is also useful to bear in mind when assessing the datasets in the various categories covered in the remainder of this report.

For an example, refer to the summary table in the SA country summary report for LGAF (Kitchin & Ovens, 2013, p. 22) – refer Figure 3 below⁴⁴.

⁴³ Useful as a concluding comment.

⁴⁴ Where **green** indicates that in that category the laws and practices met requirements for good land governance, **yellow** indicates that they mostly met requirements, **orange** that they struggled to meet requirements, and **red** that no progress or limited progress had been made in meeting requirements for good land governance.

| LEGAL AND INSTITUTIONAL FRAMEWORK | | | Score | | | |
|--------------------------------------|---------|--|-------|---|---|---|
| Indicator & Dimension | Topic | | A | B | C | D |
| Recognition of Rights | | | | | | |
| 1 | i, ii | Land tenure rights recognition (rural and urban): <i>Rural and urban land tenure rights are legally recognised.</i> | | ■ | | |
| 1 | iii | Rural group rights recognition: <i>Rural group rights are formally recognised.</i> | | ■ | | |
| 1 | iv | Urban group rights recognition in informal areas: <i>Urban group rights are recognised in informal areas.</i> | | | ■ | |
| 1 | v | Opportunities for tenure individualisation: <i>Opportunities for tenure individualisation exist and are accessible.</i> | | | ■ | |
| Enforcement of Rights | | | | | | |
| 2 | i | Surveying/mapping and registration of claims on communal or indigenous land: <i>Most communal or indigenous land²² is mapped and rights are registered.</i> | | | | ■ |
| 2 | ii, iii | Registration of individually held properties in urban and rural areas: <i>Individually held properties in urban and rural areas are formally registered.</i> | ■ | | | |
| 2 | iv | Women's rights are recognized in practice by the formal system (urban/rural). | ■ | | | |
| 2 | v | Condominium regime that provides for appropriate management of common property: <i>A condominium regime provides for appropriate management of common property.</i> | ■ | | | |
| 2 | vi | Compensation due to land use changes: <i>There is compensation for loss of rights due to land use changes.</i> | | ■ | | |
| Mechanisms for Recognition | | | | | | |
| 3 | i | Use of non-documentary forms of evidence to recognise rights: <i>Non-documentary forms of evidence are used to recognise property rights</i> | | | ■ | |
| 3 | ii | Formal recognition of long-term, unchallenged possession: <i>There is formal recognition of long-term, unchallenged possession.</i> | | | ■ | |
| 3 | iii | First-time registration on demand is not restricted by inability to pay formal fees. | | | | ■ |
| 3 | iv | First-time registration does not entail significant informal fees. | | ■ | | |
| 3 | v | Formalisation of residential housing is feasible and affordable. | | | ■ | |
| 3 | vi | There is an efficient and transparent process in place to formally recognise long-term, unchallenged possession. | | ■ | | |
| Restrictions on Rights | | | | | | |
| 4 | i, ii | Restrictions exist regarding urban and rural land use, ownership and transferability | | ■ | | |
| Equity and Non-Discrimination | | | | | | |
| 6 | i | Clear land policy developed in a participatory manner | | | ■ | |
| 6 | ii | Meaningful incorporation of equity goals | | | ■ | |
| 6 | iii | Policy for implementation is costed, matched with the benefits and is adequately resourced | | | ■ | |
| 6 | iv | Regular and public reports indicating progress in policy implementation | | | ■ | |

Figure 3. Strengths and weaknesses in the legal and institutional framework for South Africa - LGAF, 2013

In terms of main information providers for this section, refer to panel members from the original SA LGAF, and the list of references in the bibliography.

Note: Here ends the introductory sections that have covered research objectives, country context and the policy and institutional ecosystem. Here follows the specific findings from the scan of datasets, addressing land tenure data, land cover, use and management, disputes, human settlements, markets and financing, and climate change and environment.

3) LAND TENURE DATA

Note: There were two competing organising frameworks for this section (and all the data sections) in the Research Guide (one found in the key categories table and the other in the suggested structure for the report). We have resolved this in the following structure with the relevant queries moved around to fit in to the organising structure

There are three sub-sections under the topic of land tenure data, viz. cadastral data, land registry data, and customary land.

CADASTRAL DATA

Table 3. Land tenure data - cadastre (sourced from SA SoLI Matrix 03/12/2019)

| Ref | Name of dataset | Description | SoLI Code |
|-----|---|--|-----------------|
| 2 | Cadastre (Cadastral Spatial Data of the Chief Surveyor-General) | The SA cadastre shows surveyed properties and registered (in the Deeds Offices) rights, like ownership, bonds (mortgages) and servitudes (easements). A South Africa-specific definition for "cadastre" could therefore read as follows: "A parcel based and up to date land information system containing a record of real rights in land." (Ovens, 2012) http://csg.dla.gov.za/data.htm | 2a_DataCadastre |
| 3 | Cadastre Property Search Viewer | Online viewer which one can use to produce maps of cadastral data https://csg.esri-southafrica.com/spatialdataviewer/ | 2a_DataCadastre |
| 6 | Enumerator Area Types: Vacant land | A complete land use overview of South Africa that includes highlighting vacant land areas http://maps.mapable.co.za/ ⁴⁵ | 2a_DataCadastre |
| 9 | Forestry maps | Department of Agriculture, Forestry and Fisheries maintains maps of forests per Province, including thickets, woodlands, champion trees, government-owned commercial forests, leased plantations, government-owned plantations etc. https://www.daff.gov.za/daffweb3/Branches/Forestry-Natural-Resources-Management/Forestry-Regulation-Oversight/Maps | 2a_DataCadastre |
| 88 | eThekweni Municipality GIS Portal | A number of shapefiles pertaining to the eThekweni Municipality are available to download – some are more relevant than others. Examples include housing plan, informal settlement programme, informal units, leases, less formal leases, property sales and registered parcels http://gis.durban.gov.za/gis_Website/internetsite/#top | 2a_DataCadastre |
| 52 | South African Mineral Resources Administration System (SAMRAD) | For lodging applications for prospecting and mining, and for anyone to view them. "SAMRAD ONLINE is the South African Mineral Resources Administration System where the general public can view the locality of applications, rights and permits made or held in terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002), (The MPRDA), and where applications in terms thereof can be submitted electronically." https://www.dmr.gov.za/samrad-online-system | 2a_DataCadastre |

⁴⁵ For detailed instructions for how to access data on vacant land parcels, please see the SA SoLI Matrix

KEY QUESTIONS

Types of cadastre (mining, forestry and agriculture), parcel boundaries and locations

- The Department of Agriculture, Forestry and Fisheries maintains maps of forests per province, including government-owned commercial forests, leased plantations, government-owned plantations etc. (Ref 9)
- The South African Cadastral Spatial Data of the Chief Surveyor-General stores all surveyed properties and registered (in the Deeds Offices) rights, like ownership, bonds (mortgages) and servitudes (easements) in South Africa. Information on any specific erf or portion can be supplied by the Chief Surveyor General upon request or via their online map viewer. This information provides the parcel boundaries (also in the form of shapefiles), the parcel locations and the registered owner. (Ref 2 & 3)
- The South African Mineral Resources Administration System (Ref 52) provides a space to lodge applications for prospecting and mining as well as a space where anyone can view them. It allows the user to view the locality of applications, permits and rights made or held in terms of the Mineral and Petroleum Resources Development Act.

Does the cadastre have the “transaction history of parcel” – That information is in the Deeds Registry – refer next section.

Does the cadastre have parcel boundaries and locations – Yes, it is a GIS map (see Ref 3 URL for viewable maps) and it has:

- Provincial Boundaries, Magisterial District Boundaries, Local Authority Boundaries, Farm Parcel Boundaries, Farm Names, Urban Parcel Boundaries, Urban Parcel Numbers, General Plan Boundaries, Places of Interest, Servitudes. Cadastral land parcel: Number, name, legal extent, registered owner. Third party right: Type of right, owner of right.

Does it cover the whole country - Yes, but refer discussions about recordal of more individual land rights on communal or trust land.

- “More than 90% of records for privately held land registered in the registry are readily identifiable in maps in the registry or cadastre”. (Kitchin & Ovens, 2013, p. 17)

Updated daily - Private land surveyors generally do the work, which is then validated by the Surveyors General and then lodged.

LAND REGISTRY DATA

Please note the nature of the South African Deeds Registry (and its relationship to the Cadastre) as described above in the sections on Land governance (page 13), Tenure (page 22) and Data and information (page 33ff).

Table 4. Land Registry Data (sourced from SA SoLI Matrix 03/12/2019)

| Ref | Name of dataset | Description | SoLI Code |
|-----|-------------------------|---|-----------------|
| 4 | National Deeds Registry | <p>"The Deeds Office is responsible for the registration, management and maintenance of the property registry of South Africa. It also keeps copies of antenuptial contracts. You can get information from the deeds registry on the following:</p> <ul style="list-style-type: none"> • the registered owner of a property • the conditions affecting such property • interdicts and contracts in respect of the property • purchase price of the property • rules of a sectional title scheme • a copy of an antenuptial contract (ANC), deeds of servitude, mortgage bonds, etc. • a copy of a sectional title plan or the rules of a Sectional"⁴⁶ <p>Government online portal: "DeedsWeb provides you with a web-based interface to up-to-date land registration information located on the Deeds Registration System database."⁴⁷</p> <p>http://www.deeds.gov.za/</p> | 2b_DataRegistry |
| 38 | Lexis WinDeed | <p>Commercial platform that provides a search tool for individual, company and property information</p> <p>http://www.windeed.co.za/</p> | 2b_DataRegistry |
| 51 | Public land [comment] | Land owned by the national, provincial and local governments and by State-owned entities (SOEs) | 2b_DataRegistry |
| 85 | Land Audit Report 2017 | <p>Report detailing the private land ownership in the country by race, gender and nationality</p> <p>www.ruraldevelopment.gov.za/publications/land-audit-report/file/6126</p> | 2b_DataRegistry |

KEY QUESTIONS

The Deeds Registry has been described in detail already. The registry is held by the Chief Registrar of Deeds under the Department of Agriculture, Land Reform and Rural Development.

⁴⁶ <https://www.gov.za/services/place-live/get-deeds-registry-information>

⁴⁷ <http://www.deeds.gov.za/ITSODEedsWebB/deedsweb/welcome.jsp>

For each parcel (or 'erf'), the National Deeds Registry has records of Property details: province, diagram number, extent, owners, endorsements (bonds, etc), history (previous owners and title deeds), contract details, etc.

Note that because of the nature of the registry, it is not a registry of all land rights.

Using the data, once purchased (refer Matrix Ref 4 for details), individual land records can be aggregated in the following ways:

- by urban or rural – an approximate proxy for urban or rural would be land use (i.e. areas zoned as residential, commercial, retail, industrial etc.). Now that South Africa has a municipal boundary system which covers the whole country, whether an area is in a municipal area or not is *not* indicative of urban or rural. Built up areas are identified by geo-informatics professionals using remote sensing data. This then includes places which are built-up but have not been zoned (e.g. informal settlements and built-up rural areas on communal land);
- by gender of rights holder – in the case of individual ownership or joint ownership by partners this could be derived from the identity number of property owners, but of course only covers land where a title deed over the land parcel exists. And more general information about gender of heads of household and tenure can be derived from the National Census (Matrix Ref 69)
- by indigenous and non-indigenous individuals – see next section, but note that the meaning of indigenous in South Africa is special (du Plessis, 2011)
 - community land records are not held in the National Deeds Register other than as broad trust lands, leading to a call for land law and administration reform, for example in (Kingwill, 2019; Mahlali et al., 2019)

Evidence of registry data being contested:

- The South African Legal Information Institute (SAFLII) is an online legal repository that gives the user access to a number of court cases, including ones to do with registry disputes (Matrix Ref 60). There is a section on disputes below.
- The Presidential Panel on Land Reform and Agriculture calls for the registry to accommodate forms of collective ownership and to establish land administration as one of the pillars of land reform (the other three pillars being restitution, redistribution and secure tenure) (Mahlali et al., 2019)
- The Deeds Registry is continuously updated and released, although there is a lag time of sometimes more than a year as records percolate up from the local deeds registries.

Many commercial companies make a business of purchasing the deeds registry data (usually at quarterly intervals), cleaning the data and making it available in various forms. The data around property transactions are particularly valuable to estate agents, investors and financiers. Many research organisations and even government departments purchase their deeds registry data from commercial organisations. There are many such companies that specialise in different areas, three examples being Lexis WinDeed (Matrix Ref 38), Lightstone Property⁴⁸ and Knowledge Factory⁴⁹. Others specialise in linking the cadastre to the deeds registry, or the cadastre and registry to more up-to-date land use data (see land use section). Because the ecosystem of such companies is so large we have not tried to scan all of these.

It appears that the South African Deeds Registry is well organised and easily available online (for a price). Two comments sum this up:

- “The overall conclusion of the consultants is that the existing systems of deeds registration and cadastral survey are professionally run and very reliable. However, they do not provide services to the majority of the population, and it is fundamentally unacceptable to have a land administration system that does not provide services to most of the public. Existing systems are reliable, but they are too expensive, too complex and not available at the local level.” (Adlington & Lamb, 2011)
- “I think that SA is transparent in principle when it comes to deeds. In practice, you need to be registered on their system and you have to pay a small fee. Many practicing cadastral surveyors and conveyancers will subscribe to these requirements because they have to have access to the deeds records for their line of work. But for the general public it is not so easy and the system is far from transparent, unlike the SG’s offices, where all cadastral data is available online for free. ... In short, it is a bug-bear of many working in the land sector that the deeds office is not as open and accessible as other related databases such as the SG [Surveyor General] and NGI [Chief Directorate of National Geospatial Information]” (Simon Hull, UCT, perscom 2019-11-29)

The legal system accompanying the processes related to issuing and altering deeds is also very expensive and rather outdated. For example, it is a long and expensive process to change the name of the holder of the deed in the event of the sale of the property, or transfer because of inheritance, divorce, etc.. People then tend to resort to informal or less recognised records of these events (e.g. affidavits).

⁴⁸ <https://lightstoneproperty.co.za/>

⁴⁹ <http://www.knowledgefactory.co.za/>

On the issue of public land holdings, information about land owned by the national, provincial and local governments and by state-owned entities (so-called SOEs) should be provided by the Chief Registrar of Deeds with the Chief Surveyor General (Matrix Ref 51). There have been several attempts by the Chief Surveyor General and the Chief Registrar of Deeds to compile a register of all State-owned land, but these have only partly succeeded (in the form of once-off land audits) because of poor record-keeping: when land is transferred between public entities, the land is not always taken off the records of the former owner and/or added to the records for the new owner.

At Matrix Ref 85 we reference one such land audit exercise in 2017⁵⁰ that was set up to gather information to answer for each land parcel:

- Who is the owner
- Who is the occupant/user
- The rights to the land
- Current usage of the land
- What buildings and improvements exist on it

The report on the results of the 2017 land audit (covering 2014 to 2017), included information on land ownership in South Africa, private land ownership, farms and agricultural holdings ownership by race, farms and agricultural holdings ownership by gender, farms and agricultural holdings ownership by nationality, erven ownership by race, erven ownership by gender, erven ownership by nationality, sectional title ownership, sectional title ownership by race, sectional title ownership by nationality, sectional title ownership by gender.

These land audits tend to be *ad hoc* exercises because the information must be gathered from a variety of sources and datasets, collated and analysed, not least spatially, and so are expensive to undertake.

The findings emerging from land audits around trends in land ownership patterns also tend to be contested by, for example, private agricultural land holders. Overlapping with the state-led land audit just mentioned, Agri-SA released the findings of their own land audit

⁵⁰ <http://www.ruraldevelopment.gov.za/phocadownload/Cadastral-Survey-management/Booklet/land%20audit%20booklet.pdf>

(AGRI SA, 2017). The ensuing debate was certainly well covered in the media (see also the Land Portal hosted debate on the topic⁵¹).

INFORMATION ON CUSTOMARY LAND

The Constitutional, legal and tenure context of customary land in South Africa has been discussed in detail in the section on the Constitution (starting page 10) and Tenure (starting page 22 and see Table 2).

Table 5. Information on customary land (sourced from SA SoLI Matrix 04/12/2019)

| Ref | Name of dataset | Description | SoLI Code |
|-----|---|---|--|
| 112 | Tribal Authority Areas in South Africa | A spatial dataset highlighting the boundary information of tribal / customary areas in South Africa http://maps.mapable.co.za | 2c_DataCustomaryLand 8a_CrossCutting |
| 58 | Land Claims Court Judgements | Government website of all land claims court decisions, by year since 1996 http://www.justice.gov.za/lcc/judgments.html http://www.justice.gov.za/lcc/jdgm/lcc2018.html | 2c_DataCustomaryLand 4a_DisputeHistInfo |
| 59 | South Africa: Land Claims Court Database (NGO) | All decisions from the Land Claims Court of South Africa - all those that have been selected and provided by the Court. http://www.saflii.org/za/cases/ZALCC/ | 2c_DataCustomaryLand 4a_DisputeHistInfo |
| 103 | Redistribution and Restitution in South Africa 2018 | Excel spreadsheet detailing the key statistics for redistribution and restitution, the redistributed land by province, the number of projects per province and the number of female or youth beneficiaries https://africaopendata.org/dataset/redistribution-and-restitution-in-south-africa-2018 | 4a_DisputeHistInfo 2c_DataCustomaryLand |

KEY QUESTIONS

Community land records

- There is no individualized recording of community land rights as the registry is limited to deeds (Deeds of Grant and Deeds of Sale) which only apply to ‘formal’ properties. This type of registry needs reform as, according to the book “Untitled”, 59.7% of the South African population in 2011 were holding land outside the formal property system, with 32.8% of this being in the form of communal property (Hornby, Kingwill, Royston, & Cousins, 2018, p. 8)

Information on area of land held under a customary tenure system

⁵¹ <https://landportal.org/debates/2018/what-can-we-do-achieve-sustainable-pro-poor-land-reform-south-africa>

- on the Mapable Viewer there is a layer named Tribal Authorities. It is a spatial dataset provided by the Chief-Directorate: National Geo-Spatial Information (CD:NGI) that shows the boundary information of tribal/customary land areas in South Africa over the total land area (Ref 112).

Information on recognition in practice of customary tenure systems

- The Constitution does recognize customary land as discussed above, however, there is a gap when it comes to recording more individual or household level rights over land in traditional areas

Evidence of customary tenure recognition in official registries – see discussion above in the section on Land registry data, page 42.

Evidence of land restitution

- The Redistribution and Restitution in South Africa 2018 report (Ref 103) details key statistics for redistribution and restitution in the country. It also describes the beneficiaries by gender and age.
- The South African Legal Information Institute (SAFLII) is an online legal repository that draws on state records to give the user access to a range of court cases, including ones to do with land restitution and land claims. (Ref 60)

GAPS

The comments above by Adlington and Lamb, and Hull, have summarised the gaps and weaknesses in the cadastre and registries systems.

Some of the information gaps in the area of aggregating who owns what, or who lives where (by gender and ethnicity), can be addressed from Census data, which is dealt with later.

The gaps have mainly to do with:

- the focus of the registry on deeds, to the exclusion of other forms of tenure;
- the expense of accessing the deeds records system (affordable for small quantities of records but not for larger)
- the excessive expense and complexity of making changes to deeds (e.g. changes in who owns a property)
- the links between the cadastre and the deeds registry (a complex topic, but it seems that the links between the systems have some challenges)
- the ongoing issue around individual land rights on customary land and that this land is in most cases not surveyed (i.e. there are no formally recorded parcels)

boundaries) nor is ownership formally recorded. The powers of traditional leaders over land allocation and ongoing security of tenure is a complex, somewhat sensitive and ongoing debate.

The South African LGAF report recommended that

- “The land information systems need to be reviewed to ensure greater accessibility for the poor.
- “Justification: Information on registered title deeds is available publicly for a fee. This includes information about property sales, which would be useful for prospective sellers to set prices more effectively. Information from the deeds registry shows that low-income housing is beginning to appreciate in value. However, mainly banks and estate agents use this information. Distressed sales information and a generally depressed market show that individuals do not have access to this information (and neither do some of the other institutions that are necessary in supporting a better functioning market).
- Short-term actions: Costs for accessing deeds data must be reduced, the process for accessing deeds information should be simplified and a programme must be developed to make the aggregated data available to a broader audience at no cost.” (Kitchin & Ovens, 2013)

Since then, as discussed already, more detailed and targeted recommendations about the reform of the land administration system have emerged from civil society groups and in the recommendations of the Presidential Panel on Land reform.

CONCLUSION TO TENURE DATA

Was information hard to find? Methods to find info?

- The state-run platforms that make cadastre and deeds data available are stable and available but seem to be slowly becoming dated in the way they make data available.
- Information relating to customary land in the country was difficult to find as not many datasets are available. There was an abundance of reports that spoke to this issue but not much on the evidence of any transformation. These reports were found from prior knowledge on the subject as well as by searching the subcategory titles, for example “Information on existing customary tenure systems in country”.

What were the challenges?

- There are different views (narratives) on land tenure data depending whether you represent government (and land reform as a priority), land owners, or rights activists. These (overly-simplified) groups tend to draw on different datasets or generate their own (as in the case of the 2017 land audits mentioned).

Who are the main info providers?

- As documented above, but mainly the agencies that work within the Department of Agriculture, Land reform and Rural Development.

Are these gaps well known to actors dealing with land governance:

- Yes, these issues are well known and addressing them has become a national priority, as evident from the sources cited in the section above.

4) LAND COVER, USE AND MANAGEMENT

The issues of land cover, use, and management information have been mentioned in the sections above on transparency (starting on page 6), in discussing the Spatial Planning and Land Use Management Act and the relevant institutions, and in the discussion about the Cadastre.

Cooper gives a useful input on the difference between land cover and land use in his presentation on a “meta-language for land use classification systems” (Cooper, 2014):

- Land cover – observed (bio)physical cover on the Earth’s surface [ISO 19144-2]
 - Can generally be identified from remotely-sensed imagery though with significant error rates
- Land use – arrangements, activities and inputs people undertake in a certain land cover type to maintain it or produce change [ISO 19144-2]
 - Often needs close inspection on the ground [as] usage can be obscured [and] usage can change

LAND COVER DATA

Table 6. Land cover data (sourced from the SA SoLI Matrix, 04/12/2019)

| Ref | Name of dataset | Description | SoLI Code |
|-----|-----------------------------------|--|--------------|
| 7 | South African National Land Cover | 1994, 2000 and 2013/4, at about 1:100 000. 72 classes https://egis.environment.gov.za/national_land_cover_data_sa | 3a_LandCover |
| 20 | Landsat | MSS, TM, ETM, 1 and 8; 15m to 60m spatial resolution for Southern Africa from 1972 till to date https://landsat.visibleearth.nasa.gov/ | 3a_LandCover |
| 21 | SPOT 2, 4, 5, 6, and 7 | 1.5m to 20m spatial resolution for Southern Africa from 1994 to date https://cnes.fr/en | 3a_LandCover |
| 22 | CBERS 2B, 4 | 20m spatial resolution for SADC region except Madagascar, DRC, Mauritius and Seychelles from 2008 to date https://en.wikipedia.org/wiki/CBERS-2B | 3a_LandCover |
| 23 | MODIS, AQUA and TERRA | 250m, 500m and 1km spatial resolution respectively for the whole of Africa from 200 to date https://terra.nasa.gov/about/terra-instruments/modis | 3a_LandCover |
| 24 | EarthWatch and GBDX platforms | Multiple resolutions from 30cm and lower for the whole world. Dataset is current and available through reseller agreement https://www.digitalglobe.com/products/earthwatch | 3a_LandCover |
| 25 | Pleiades | 50cm resolution covering the whole world also available through reseller agreement https://www.satimagingcorp.com/satellite-sensors/ | 3a_LandCover |
| 26 | RADARSAT 2 | Multiple resolution for the whole world from April 2018 to date http://www.asc-csa.gc.ca/eng/satellites/radarsat2/Default.asp | 3a_LandCover |

| Ref | Name of dataset | Description | SoLI Code |
|-----|--|---|--------------|
| 27 | Sumbandila | 6.25m spatial resolution covering the whole world from 2009 – 2011 http://sumbandilamission.blogspot.com/ | 3a_LandCover |
| 96 | KwaZulu-Natal Systematic Conservation Plan: Vegetation Types | This dataset represents the vegetation map of the province of KwaZulu-Natal http://www.asc-csa.gc.ca/eng/satellites/radarsat2/Default.asp | 3a_LandCover |
| 14 | National Spatial Planning Data Repository (NSPDR) | A national government platform under development that "...will facilitate access to spatial information such as demographic, environmental, general infrastructure, cadastre data that is required for integrated spatial planning when developing SDFs and land use schemes." – described in detail in the Spatial data section on page 17 http://nspdr.info/ | 3a_LandCover |
| 114 | South African National Space Agency online web mapping (SANSa) | Contains a wide array of mapped land cover AND land use data, for example, Base Maps, Open Street Maps, Vegetation Analyses, Vegetation Density, National Vegetation Density Wet Season, National Vegetation Density Dry Season, Bio-Physical, Leaf Area Index 2015, Forest Analyses, Forest Canopy Density, Crop Anomaly Map, Crop Arable Land Fraction, Food Security in Africa, Vegetation Boundaries, Flood Risk Analyses, Flood One Metre, Flood Three Metre, Flood Five Metre, Informal Settlement – 2006 & 2011, Human Settlement – 2007 -2018, Flooded Human Settlement, Water Distribution, Water Bodies 2015 – 2018, Administrative Boundaries, Provincial, District Municipality, Local Municipality, Voting Wards, National Roads, Secondary Roads, Rivers http://products.sansa.org.za/mapApp/index.html | 3a_LandCover |
| 118 | Soil and Terrain Database (SOTER) for South Africa | "The Soil and Terrain database for South Africa primary data (version 1.0), at scale 1:1 million (SOTER_South_Africa), was compiled of enhanced soil information within the framework of the FAO's program Land Degradation Assessment in Drylands (LADA). Primary soil and terrain data for South Africa were obtained from the SOTERSAF database (ver. 1) at scale 1:2 million. This version of SOTER_South_Africa includes some changes in the GIS file, based on the SRTM-DEM derived data and a changes of the attributes database." https://data.isric.org/geonetwork/srv/eng/catalog.search#/metadata/c3f7cfd5-1f25-4da1-bce9-cdcd8c1a9a9 | 3a_LandCover |

Land Surface Data

- There are a number of datasets that make available land surface data in South Africa.
- The South African National Space Agency has an extensive online map viewer that highlights vegetation density, NDVI & Leaf Area Indices and forest cover densities. It also shows water distribution in the country as well as human settlements, formal and informal. (Ref 114)
- The South African National Land Cover dataset showcases the 72 different land cover classes in the country. (Ref 7)
- The SANBI BGIS portal also offers access to some land surface datasets – for example, the KwaZulu-Natal Systematic Conservation Plan: Vegetation Types (Ref 96)

- Finally, access to imagery and other data from the various satellites, such as those found at Landsat (Ref 20), the SPOT versions (Ref 21) and the MODIS, AQUA and TERRA (Ref 23), can assist with determining land surface information in the country.

Soil Type Data

- The International Soil Reference and Information Centre's Soil and Terrain (SOTER) Database for South Africa provides information about South Africa's soil properties as well as the underlying lithology and landforms (Ref 118)
- On soil type data (as an indication of land degradation), the current legal responsibility lies with the Council of Geo-Science - <http://www.geoscience.org.za/>
- There is more information in the land degradation section. There is some overlap between these two sections in the structure.

LAND USE

As a general comment, as mentioned earlier, land use data is locally collected and maintained by municipalities on a plethora of platforms. In the scan of datasets we used a few cities as examples but found it difficult to get a full overview. This is one of the larger gaps (or weaknesses) in the country's land information system, and one to which SPLUMA legislation also sought to bring some semblance of systemic order.

Land use and land cover are often conflated, unfortunately. A national standard for land use is being developed, led by NGI. Most cities and towns have their own land use recording and mapping systems. SPLUMA now requires all municipalities to use the same standard for zoning, though it has not yet been finalised (Ref 45). Antony Cooper offers some useful insight into the distinctions between the terms, and the ideal sequences in land development (refer Figure 4 and Figure 5).

Land use ≠ zoning ≠ planning

- Land use does not stop at political boundaries
 - De facto usage of the area
 - Often mixed
 - Legal or illegal or uncertain
- Zoning is typically by cadastral parcel
 - Designated permitted uses
 - Use or function, building height, density, building lines, impervious surfaces, servitudes, responsibilities, etc
 - Parcels zoned differently can be tied together legally
 - Eg: required parking garage for a shopping centre
 - Segregate incompatible uses
 - Preserve character
- Planning should be a broad vision and based on evidence
 - Order and regulate land use efficiently, effectively and ethically
 - Reduce land-use conflicts
 - Systematic assessment
 - Current and potential economic and social conditions, alternative uses, available resources, future demands, aesthetics, etc

Figure 4. Land use is not (exactly) the same as zoning and both are not the same as planning (Source Cooper, 2014, p. 11)

Land use, zoning and planning

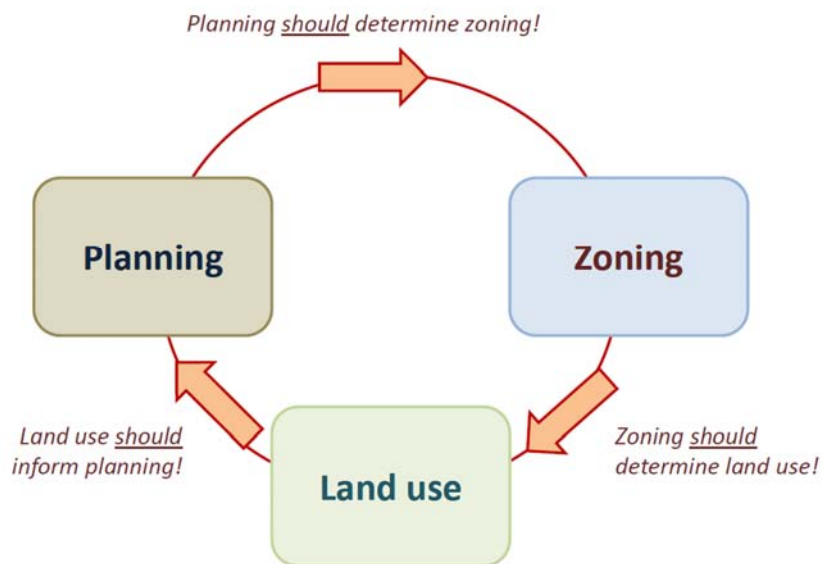


Figure 5. The (ideal) relationship between planning, zoning and land use (Source Cooper, 2014, p. 12)

Table 7. Land use (sourced from the SA SoLI Matrix 04/12/2019)

| Ref | Name of dataset | Description | SoLI Code |
|-----|--|--|---------------------------------|
| 13 | South Africa Land Observatory (SALO) | A platform. The SA Observatory's goal is to promote evidence-based and inclusive decision-making over land resources in South Africa and beyond by generating, analysing and making available land-based information and by widening participation to all stakeholders. [quoted from GovInn website] http://salandobservatory.org/land-data/ | 3b_LandUse 3a_LandCover |
| 40 | South African Cities Data Almanac (SCODA) | A city-centric data portal aimed at supporting the planning, managing, monitoring and reporting needs of cities http://www.scoda.co.za/dataset | 3b_LandUse 3c_LandManagement |
| 78 | Cape Town Mayoral Urban Regeneration Programme Areas | Identified declining town centres and community nodes that need to be targeted in order to uplift former neglected areas for the benefit of the communities https://web1.capetown.gov.za/web1/OpenDataPortal/DatasetDetail?DatasetName=Mayoral%20urban%20regeneration%20programme%20areas | 3b_LandUse 7a_EnvLandUsePlan |
| 80 | City of Cape Town Undeveloped Public Open Space | Outline polygons of undeveloped public open space within Cape Town https://web1.capetown.gov.za/web1/OpenDataPortal/DatasetDetail?DatasetName=Undeveloped%20public%20open%20space | 3b_LandUse |

There is a fair bit of overlap in these sections on land cover, use and management. Despite the need for the clear use of terms as outlined above, many datasets encompass several of these.

Data on land use

- The South African Land Observatory (SALO) is a civil society, university-based initiative whose objective is to make land data and documents available to improve decision making by providing access to evidence and information. (Ref 13)
- The South African Cities Open Data Almanac (SCODA) aims to support South African cities planning, managing, monitoring and reporting needs. It provides users with information such as the State of the City Reports by the South African Cities Network (SACN) that details many issues regarding cities in South Africa. For example, the number of formal, informal and traditional dwelling types in South Africa, the open-space in the country and the population size. (Ref 40)
- As mentioned, maintaining land use records is a local function, and we can only provide some examples:
 - The City of Cape Town provides a shapefile dataset on the undeveloped public open space in the city (Ref 80)

- Many datasets can also be found at the eThekweni Municipality GIS portal relating to land use, such as the housing plan and the informal settlement programme, both of which adhere to SPLUMA. (Ref 88)
- The intention is that the National Spatial Planning Data Repository (Ref 14) discussed in the section above will also have land use data and that this will be the national platform for that, although this platform is still under development.

Data on percentages of public and private land of total land area

- Through once-off land audits there have been *ad hoc* attempts at uncovering this information. The base data is available but is not regularly analysed or made available in a coordinated manner, hence the need for land audits as discussed above (Ref 85).
- A comment from the Presidential Panel on Land Reform:
 - “25 years into democratic rule, there remains incomplete information regarding the question of who owns what land in South Africa. The panel therefore recommends that the minister for DRDLR⁵² engage with the Deeds Registry and Department of Public Works, and existing private sector-driven audits, e.g. the Agri-Development Solutions (ADS) audit, among others, to determine whether a national audit of both public and privately-owned land is feasible. There must be a determination of what mechanisms can be put in place so that this information can be regularly updated, disaggregated geographically and made publicly available.” (Mahlati et al., 2019, p. 97)

Land use/spatial planning laws, policies and/or regulations

- There is a whole history of state-initiated, national, spatial and non-spatial development plans and statements of intent, covering both urban and rural land and development. They were referred to as “spatial development perspectives”, and now more as “national development plans”. There is also much reporting into international processes such as reporting on the MDGs and SDGs, and many other agreements to which SA is a signatory.
- The National Development Plan (NDP): “long-term strategic plan that recognizes the need to unlock well-located land, especially state-owned land, for affordable housing” (Housing Development Agency, 2014).

⁵² Department of Rural Development and Land Reform, now renamed to include Agriculture.

- Spatial Planning & Land Use Management Act (SPLUMA): promotes spatial restructuring and development, with a key focus on providing a uniform, effective and comprehensive system of spatial planning and land use management for the Republic, ensuring that the system promotes social and economic inclusion, that it uses land sustainably and efficiently and facilitates intergovernmental relations (Housing Development Agency, 2014)
- Spatial Development Frameworks under the Integrated Development Plan (IDP): The IDP is a five year plan that requires local government to structure its administration, budgeting and planning processes in relation to the basic needs of the community. The SDF falls under this plan and guides municipalities’ overall spatial distribution of current and desirable land uses. (Ovens, 2012)
- The City of Cape Town’s Open Data Portal also provides information on identified declining areas and how the Mayor’s Urban Regeneration Programme aims to uplift them. (Ref 78)
- The National Spatial Planning Data Repository (NSPDR) is also in the process of being developed in order to uphold SPLUMA. (Ref 14) – see more detail above.

LAND MANAGEMENT DATA

Table 8. Land management data (sourced from the SA SoLI Matrix 04/12/2019)

| Ref | Name of dataset | Description | SoLI Code |
|-----|---|--|--|
| 55 | Municipal Barometer | "The Municipal Barometer is an initiative of South African Local Government Association (SALGA) in partnership with Centre for Municipal Research and Advice (CMRA), Development Bank of Southern Africa (DBSA), South African Cities Network (SACN), Statistics South Africa (StatsSA) and Municipal Demarcation Board (MDB)." See notes, far right http://www.municipalbarometer.co.za/ | 3c_LandManagement |
| 73 | Cape Town New Development Areas | Location of new development areas within Cape Town’s metropolitan area in terms of the Cape Town Spatial Development Framework https://web1.capetown.gov.za/web1/OpenDataPortal/DatasetDetail?DatasetName=New%20development%20areas | 3c_LandManagement |
| 84 | District Rural Development Plans repository | Department of Land Reform and Rural Development Spatial Planning and Land Use Management repository of rural development plans for districts of each province in South Africa http://www.drdir.gov.za/services/geo-spatial-services-technology-and-rural-disaster/district-rural-development-plan-drdirp | 3c_LandManagement 7a_EnvLandUsePlan |

| Ref | Name of dataset | Description | SoLI Code |
|-----|-------------------------------|--|-------------------------------------|
| 91 | HDA Select Municipal Profiles | The Housing Development Agency has developed and deployed an information system which includes municipal profiles for selected municipalities. The intent of this profile is to provide guidelines and advice to Provincial Department of Human Settlements as well as municipalities on efficient utilization of land and economic government infrastructure investments in support of integrated human settlements development. http://www.citysolve.co.za/hda/ | 3c_LandManagement 5a_HousingInfo |
| 46 | Land zoning map | Unzoned and vacant land. Private dataset on vacant land http://maps.mapable.co.za/frame.aspx?id=0ee9a132-3bd0-4161-b69b-86d18fb6d25e For the Vacant Land dataset: - Select the "Land" tab - Under the layer directory, open the "EA Type" folder - Select 2011 EA Types (this shows zoning categories) See also Ref 45 - land use, and Ref 6 - vacant land | 3c_LandManagement |

Legal framework: The legal framework on land management, such as land consolidation, exchanges or other approaches for the readjustment of parcels or holdings is found in the national town and regional planning system, from national to local. This has been covered above. The legal and regulatory system that governs land use changes, township establishment, rezonings, subdivisions, and consolidations, and the degree to which it has worked and is now changing is really a very large topic on its own. So it is difficult, without referring to the whole planning literature and jurisprudence, to answer simply what the evidence is for “obedience to and effectiveness of legal framework of land management”. However there is a reasonably good level of transparency in the system in terms of releasing future plans and past performance reports. Further to this:

- SPLUMA requires all municipalities to use the same zoning regulations, although this is still being implemented at legal and regulatory level
- The Municipal Barometer is an online portal that assists municipalities with delivering on their mandates by providing rankings and benchmarks using local level data. (Ref 55)
- The City of Cape Town’s New Development Areas dataset provides evidence of adhering to their Spatial Development Framework (Ref 73)
- The District Rural Development Plans repository provides reports on all the rural development plans for districts of each province in South Africa (Ref 84)
- The Housing Development Agency (HDA) also supplies an information system for a number of municipalities to assist the Provincial Department of Human

Settlements on the best utilization of land and infrastructure investment to adhere to the IDP(Ref 91)

GAPS

To repeat the comment above, land use data is locally collected and maintained by municipalities on a plethora of platforms, and until the promised National Spatial Planning Data Repository or NSPDR is in place the absence of a national dataset on land uses based on a shared zoning system remains one of the larger gaps (or weaknesses) in the country's land information system.

The absence of regularly updated and available data on the proportion of public to private land in the country is a gap, as discussed, although we did find a number of datasets that highlighted public land holdings.

Following on from this, there is yet to be a consistent national system that regulates land use and land cover information in the country. At the moment, it is mostly at the municipal level where the data is of varying standards. The adoption and roll out of SPLUMA gives some hope, and the building of the National Spatial Planning Data Repository.

CONCLUSION TO LAND COVER, USE AND MANAGEMENT

Was info hard to find? Methods to find info?

- Information was hard to find. The strategy implemented was to do an extensive search for data portals, such as the municipal GIS portals, using keywords in order to find the relevant information. Often this would lead you to another data portal/website that would provide even further information.

What were the challenges?

- The main challenge in the Land Cover, Use and Management section was differentiating land cover and land use from one another. The terms are often conflated which makes it difficult to distinctively associate one dataset with only one of those subcategories.

Who are the main info providers?

- The Department of Cooperative Governance and Traditional Affairs (CoGTA) is responsible for ensuring all municipalities adhere to and uphold their respective mandates. Because of this department and the South African Local Government Association (SALGA) overseeing progress, much of the information on land use, cover and management originates from governmental institutions. The private or research-based institutions then draw on the data from the government in order

to further analyse, interpret and communicate the data for their different purposes.

- In general, government organisations provide many useful sites offering relevant information, for example:
 - The City of Cape Town's open data portal allows for a lot of information dissemination to the public, including information on land use
 - The eThekweni Municipality GIS portal is also of great use in this regard
 - There are many other local authorities with similar platforms, however time and scope have made it difficult to document all of them
 - The South African National Space Agency
 - The National Spatial Planning Data Repository (in progress)
 - SACN is also a quasi-governmental institute that provides a lot of valuable information about the main metros in the country, especially their state of cities reporting⁵³
 - The City Support Programme based in National Treasury also has valuable research work but at the moment it is often difficult to find and access specific pieces of their work⁵⁴

⁵³ <http://www.sacities.net/state-of-cities-reporting>

⁵⁴ <https://csp.treasury.gov.za/Pages/default.aspx>

5) LAND DISPUTES

Because the areas of historical and current land disputes are closely intertwined in the SA context, the table includes both key categories.

Table 9. Historical and current land disputes (source SA SoLI Matrix 2019-12-06)

| Ref | Name of dataset | Description | SoLI Code |
|-----|---|--|--|
| 12 | Association for Rural Advancement e-Library | Collection of documents and other media dealing with rural land struggles by farm dwellers and other, mainly in KwaZulu Natal Province since 1979 https://sites.google.com/site/afralibrary/ | 4a_DisputeHistInfo |
| 103 | Redistribution and Restitution in South Africa 2018 | Excel spreadsheet detailing the key statistics for redistribution and restitution, the redistributed land by province, the number of projects per province and the number of female or youth beneficiaries https://africaopendata.org/dataset/redistribution-and-restitution-in-south-africa-2018 http://www.ruraldevelopment.gov.za/publications/evaluation-reports/file/6466 | 4a_DisputeHistInfo 2c_DataCustomaryLand |
| 68 | Municipal IQ | A web-based data and intelligence service that monitors and assesses all of South Africa's municipalities, interestingly covering local protests and whether these are linked to service provision, housing or land, amongst other things https://www.municipaliq.co.za/ | 4b_DisputeInfo |
| 116 | Community Tapestry | "The Social Surveys Community Tapestry© is a rigorous, statistically derived typology that clusters all communities in South Africa based on three dimensions: Infrastructure, Socio-Economic Standing & Inequality." https://socialsurveys.co.za/community-tapestry/ | 4b_DisputeInfo 8a_CrossCutting |

HISTORICAL LAND DISPUTES

Legal and institutional framework on land disputes, including dispute resolution institutions, legal pluralism issues, etc.

- The history of the country and the place of land rights in the Constitution and supporting legislation are all very core to the framework in which land disputes are settled. The topic is potentially very broad, stretching all the way from large land redistribution and restitution programmes initiated by the state (to correct historical injustices), including the system of historical land claims (and the disputes arising from that), and all the way to how legal experts sort out personal disputes over property ownership as properties are transferred from rental to ownership under programmes like the Township Discount Benefit Scheme, and allocation of deeds under the current housing subsidy scheme. In my personal experience, the Western Cape ran two years of panel discussions on the various dimensions of settling the fair allocation of title deeds to properties (older stock

and new stock where the issuing of the deed had not taken place) including all types of disputes that might arise in the process. Even in those two years of consideration there were at least three broad legal perspectives on the matters (a Constitutional view, a view that there should be amnesties to rectify unclear ownership arrangements and then formalise these under the current system, and a view on the need to fundamentally reform the current property laws and administrative systems). These views were not mutually exclusive, but rather differences of perspective about where to put energy and effort in addressing the challenges.

- There are a wide range of dispute resolution institutions from rental tribunals, planning tribunals, and once-off provincial dispute resolution panels (as happened in the 1990s Mayibuye rapid land release programme in Gauteng, and now being considered again as a localised mechanism for ownership dispute resolution under the current Title Deed Restoration Trust programme).
- Land Reform (Labour Tenants) Act, No 3 of 1996 gives labour tenants security of tenure or ownership of the portion of land that they used to live on, grow crops and keep livestock in order to address the injustices of the past.
- The Extension of Security of Tenure Act, No 62 of 1997 addresses the tenure rights of farm dwellers residing on land owned by others. It also details the procedures that have to be followed to lawfully evict a person from the farm.
- Customary authorities also play major roles in dispute resolution on community land held in trust.
 - “When considering the land tenure patterns in South Africa such as the extent of the population living within communal land areas and within informal settlements, the panellists suggested that less than half of the communities have access to formal land tenure and hence formal institutions for conflict resolutions [sic]. Informal systems do exist such as the use of ward councillors, the traditional *Nkosi* or Headman and in some urban areas, other locally civic based established structures. The use of informal systems vary from area to area, in some being well structured, long standing and active and in others being inconstant and barely functioning. While locally recognised systems may exist, these are yet to be adequately acknowledged and accepted by the formal systems.” (Kitchin, Tissington, & Engel, 2011)
- There was some discussion about disputes in the sections on ‘Land registry data’ and ‘Information on customary land’ above.

Evidence of implementation and effectiveness of legal framework around land disputes

- Mostly in the form of case law (available online) and in the published work of many civil society organisations across a wide spectrum (Studies in Poverty and Inequality Institute(SPII), Socio-economic Rights Institute (SERI), Development Action Group (DAG), Built Environment Support Group (BESG), Planact, Association for Rural Advancement (AFRA) etc.)

Information on possible historical land injustice

- South Africa is well known for its historical land injustice that came with colonialism and the Apartheid system. There is an abundance of information on the segregation of people on the basis of 'colour', and the relative advantages enjoyed by white or European people who claimed the prime urban land and much of the fertile agricultural land. The relegation of black or African people and people of colour to peripheral group areas in towns and cities, and the limitation of the right to property ownership in tribal land in homelands or reserves. Further summaries of the history appear in the SA LGAF report (Kitchin & Ovens, 2013)(Ovens, 2012)

Information on possible issues around restitution of land rights

- Redistribution and Restitution in South Africa 2018 reports on key statistics for redistribution and restitution and highlights that most of the cases are rural ones, with little evidence of urban land reform. (Ref 68)

LAND DISPUTE INFORMATION

A very detailed treatment of land dispute mechanisms is available from the SA LGAF panel reports as cited above.

Because there is an overlap between case law and disputes, we refer again to Matrix Ref 59, the SAFLII platform that contains the land cases from all courts.

Share of land affected by disputes (disaggregated by type of land, if possible)

- Number of people affected by land disputes
 - We do not know of a broad measurement of the numbers of all types of land disputes in the country (urban, rural, eviction, transfer of properties, expropriation, etc.) but the specific datasets have been mentioned (e.g. Ref 12, AFRA's repository of farm evictions).
 - Another type of event that may fall under the umbrella of disputes is community protests. Municipal IQ is a web-based data and intelligence service that monitors and assesses all of South Africa's municipalities,

covering local protests and whether these are linked to service provision, housing or land, amongst other things (Ref 68).

- SAFLII also allows the user to access court cases on land disputes and could give an indication of how many people are affected.

Legal framework for land dispute resolution – discussed above

- For the housing field, in the Department of Human Settlement's 2018-19 Annual Performance Plan (Ref 83) they state that their planned policy initiatives will allow for the investigation and resolution of disputes relating to human settlements matters with the establishment of a Human Settlements Ombudsman (HSO).

Evidence of effectiveness of land dispute resolution

- In Urban Landmark's Land Governance in South Africa report, they state that land disputes in the formal court system are less than 10% of the total court cases. However, the process is slow and expensive. According to the measurement of performance in land dispute resolution using seven indicators, South Africa performs fairly poorly. (Ovens, 2012)

GAPS

Because of its history, land in South Africa and how to manage it, is a highly charged issue. Despite this, there is little high level information on land disputes and land dispute resolutions in the country. The reason could possibly be due to the informality of many dispute resolutions or the expense and lengthiness of the formal system that deters citizens from following through with issues in the formal system.

CONCLUSION TO LAND DISPUTES

Was info hard to find? Methods to find info?

- A lot of the information was found through searching keywords of the subheadings for this section, however, locating datasets that indicate the number of land disputes, the number of people affected by land disputes and the evidence of these issues being addressed was very difficult to find. Word of mouth and local knowledge within the legal and civil society sectors would assist in locating more documentary repositories

What were the challenges?

- According to Urban LandMark's Land Governance in South Africa, a key challenge in South Africa is that municipalities often do not recognize local 'informal' land dispute resolutions as legal. They therefore often overlook

community-based mechanisms which ultimately delegitimizes these forms of dispute resolution.

Who are the main info providers?

- Urban LandMark's work in addressing land governance in the country is extensive and indispensable when it comes to understanding the status of land reform and, with it, land disputes in the country. Groups like SERI and LandNESS (and many others) have continued with this process of elevating awareness of land disputes (and pursuing litigation in some cases).
- Legal repositories such as SAFLII.

6) HUMAN SETTLEMENTS

The topic of human settlements is fairly extensive because of the country's history, because of the large state-funded housing programme since 1994, and because of complex dynamics between that intervention and the ongoing growth of informal housing and settlements. There are a range of active urban and rural housing NGOs and CBOs that form another part of the country's institutional ecosystem, and they use information for their programmes (advocacy, intervention, etc.) and are themselves generators of data. There are also several academic urban and housing under- and postgraduate programmes and centres across the country. These also actively research the topic and generate a great deal of useful knowledge and information. The levels and layers of state departments dealing with housing and human settlements have been described above, along with the legal framework (e.g. in the section on 'The institutional ecosystem' p13). In some cases there are partnerships between government and universities, such as the case of the Gauteng City Region Observatory that deals with detailed housing, planning and quality of life information⁵⁵.

There is fairly comprehensive information about the housing situation in the country, and about the supply of housing through state-funded programmes, by the private sector, and through unassisted self-build. Informal housing information was the topic of one of the data stories written for this project.

INFORMATION ON HOUSING

Because informal housing is included as a category of housing in SA data collection (for example in the national Census), there is a good deal of overlap between this section and the next.

Many cities have housing (or human settlement) departments and so also maintain localised housing data, along with Provinces. We have only used Cape Town as an example in the datasets shown below.

Table 10. Information on housing (sourced from SA SoLI Matrix 06/12/2019)

| Ref | Name of dataset | Description | SoLI Code |
|-----|---|--|-------------------------------------|
| 16 | Housing Subsidy System | National register of allocation of housing benefits from the beneficiaries list (cross refer record 113) http://www.hssonline.gov.za | 5a_HousingInfo |
| 18 | National Human Settlements Land Indices | A GIS-based decision support tool to guide and inform land identification and acquisition (by HDA staff and HDA partners) https://www.lapsis.co.za/nahsli | 5a_HousingInfo 2e_DataLandTenure |

⁵⁵ <https://www.gcro.ac.za/research/research-themes/detail/analytics-visualisation/>

| Ref | Name of dataset | Description | SoLI Code |
|-----|--|---|---|
| 30 | Land and Property Spatial Information System | This online geographic and spatial information system performs an inventory function. Based on ArcGIS and networking technology, LaPSIS is used to locate, verify, manage and monitor state, communal and private land thereby facilitating the acquisition, holding, development and release of this land for residential and community purposes https://www.lapsis.co.za/Default.aspx | 5a_HousingInfo 3c_LandManagement |
| 31 | Sustainable Human Settlements: Investment Potential Atlas 2002, 2005, 2009 | Publication based on spatial analysis that was aimed at guiding the locality of investments in housing and settlements by various stakeholders, from a very dysfunctional, inequitable space economy towards more sustainable human settlements | 5a_HousingInfo 6c_MarketInvestment |
| 47 | National address database (there isn't one) | Addresses are the responsibility of local authorities, while postal addresses are the responsibility of the South African Post Office (SAPO). No national database of addresses made available by government Comment: No single source, but some municipalities make their address data available online for free | 5a_HousingInfo 5b_HousingInfoSettsData |
| 69 | National Census | "This [2011 Census-taking] exercise is not the first of its kind in South Africa; our country has a long history of census-taking dating back to the 18th century when partial attempts were made at undertaking a census. More recently, we have had two censuses in the post-apartheid era, namely Census '96 and Census 2001, and we can arguably say these were the censuses all South Africans related to on an equal footing. Census 2011 is the third census to be conducted. Out of this arsenal of information we will know whether South Africa is making progress. We will also know what it is that needs to be done." http://www.statssa.gov.za/?page_id=3839 http://www.statssa.gov.za/?page_id=3836 - the home page for the Census http://www.statssa.gov.za/?page_id=3839 Census 2011 introduction | 5a_HousingInfo 2e_DataLandTenure |
| 71 | 2011 Census Households and Population Shapefiles, on open source platform | Shapefiles documenting the number of households recorded in the 2011 census in SA as well as the recorded population https://africaopendata.org/dataset/statistics-south-africa-census | 5a_HousingInfo |
| 72 | Cape Town City Rental Stock | Datasets showing the location and size of rental properties owned by the City of Cape Town including delayed transfer ("homeownership" status) https://web1.capetown.gov.za/web1/OpenDataPortal/DatasetDetail?DatasetName=City%20rental%20stock | 5a_HousingInfo 6a_MarketValuation |
| 74 | Cape Town Indigent Households | Monthly count of indigent beneficiary households from July 2017 to March 2019 https://web1.capetown.gov.za/web1/OpenDataPortal/DatasetDetail?DatasetName=Indigent%20households | 5a_HousingInfo |
| 79 | City of Cape Town Street Addresses | Indicates the location of the property street addresses within the City of Cape Town https://web1.capetown.gov.za/web1/OpenDataPortal/DatasetDetail?DatasetName=Street%20addresses | 5a_HousingInfo |

| Ref | Name of dataset | Description | SoLI Code |
|-----|---|--|---|
| 81 | 2011 Census Households and Population Shapefiles | Shapefiles documenting the number of households recorded in the 2011 census in SA as well as the recorded population https://africaopendata.org/dataset/statistics-south-africa-census | 5a_HousingInfo |
| 82 | Department of Human Settlements Annual Reports | Annual reports detailing the status of human settlements in the country http://www.dhs.gov.za/content/annual-reports | 5a_HousingInfo |
| 83 | Department of Human Settlements Annual Performance Plans | Annual performance plans indicating housing and serviced land delivery http://www.dhs.gov.za/content/strategic-documents | 5a_HousingInfo 4b_DisputeInfo |
| 97 | Land Ownership and Housing South Africa 2017 (General Household Survey) | Land and house ownership in South Africa by province, race and gender in 2017 https://africaopendata.org/dataset/land-and-house-ownership-in-south-africa-2017 site:www.statssa.gov.za "general household survey" | 5a_HousingInfo 2e_DataLandTenure |
| 105 | Impact and Implementation Evaluation of the Social Housing Programme | A full evaluation report of the status of the Social Housing Programme in South Africa https://evaluations.dpme.gov.za/evaluations/519 | 5a_HousingInfo |
| 106 | Government Human Settlement Programme Evaluations | A range of commissioned evaluations by the Department of Planning, Monitoring and Evaluation https://evaluations.dpme.gov.za/evaluations.aspx Search for housing and human settlement evaluations | 5a_HousingInfo |
| 107 | State of Urban Safety 2017/18 | Excel spreadsheets detailing the state of urban safety in South Africa's major cities. Specific focus being on robbery and burglary at residential premises http://www.scoda.co.za/dataset/2017-2018-urban-safety-data | 5a_HousingInfo |
| 108 | Stats SA SuperWEB2 | Stats SA's online data portal that allows you to create tables with all the relevant attribute information and to download the information to an Excel spreadsheet or CSV file. A number of very useful household information can be found here, for example the number of people living in each province with more than adequate to less than adequate housing. It also can highlight the number of people living without access to basic services http://superweb.statssa.gov.za/webapi/jsf/login.xhtml | 5a_HousingInfo 5b_HousingInfo 5c_Data |

| Ref | Name of dataset | Description | SoLI Code |
|-----|---|---|--|
| 111 | Gauteng City-Region Observatory Quality of Life Survey | Provides a deeper insight into the Gauteng-region, particularly with regards to quality of life and accessibility to government housing programmes – with map outputs. The GIS viewer also offers a clear overview of several categories, specifically focusing on Gauteng https://www.gcro.ac.za/outputs/map-of-the-month/detail/measuring-accessibility-of-government-housing-programmes/ https://gcro.ac.za/research/project/detail/quality-of-life-survey-v-201718/ https://www.gcro.ac.za/outputs/map-of-the-month/detail/measuring-accessibility-of-government-housing-programmes/ https://gcro.ac.za/research/project/detail/quality-of-life-survey-v-201718/ | 5a_HousingInfo 5b_HousingInfo ettsData |
| 113 | National Housing Needs Register / Housing Demand Database | "The NHNR is a central database that offers households the opportunity to register their need for adequate shelter by providing information about their current living conditions, household composition and to indicate the type of housing assistance they require from government." Info: https://www.gov.za/about-sa/housing#NHNR Cross refer Housing Subsidy System, record 16 nhnrtest.hssonline.gov.za - under development http://www.hssonline.gov.za - to check status of citizens applying for housing subsidy | 5a_HousingInfo |
| 115 | Building based land use | A structure count for major metropolitan areas and towns http://www.geoterraimage.com/products.php | 5a_HousingInfo 5b_HousingInfo ettsData |

Generally information about housing in the country, and who lives where, is fairly comprehensive. There may be some possible exceptions such as collecting information about the numbers of homeless people in Metro's and other municipalities across the country, although there was some attempt to do this as part of the last, full census (2011).

The National Census⁵⁶ (Ref 69) under the custodianship of the government agency Statistics South Africa (Stats SA), is conducted every ten years. The Census method is based on a questionnaire addressed to a household living in a housing unit. The Census provides a lot of information pertaining to housing, such as dwelling type, house materials, and tenure. Intermediate Stats SA surveys also provide housing information such as the Community

⁵⁶ Matrix Ref 69

Survey (2017) and others. Trends analyses for demographics, migration, urbanisation and changing housing conditions between censuses are also common⁵⁷.

Number of people without registered address

- As noted in the Matrix (Ref 47 and comments) there is not an official online national street address dataset other than those that appear in other datasets for different purposes (elections, post, municipal billing, etc.). Several private companies maintain and sell their own address datasets, such as AfriGIS and credit bureaus.
- As stated in the Gender and Land Rights data story for this project, according to Untitled: Securing Land Tenure in Urban and Rural South Africa on page 8, 59.7% of the South African population were holding land outside the formal property system in 2011. Thus, more than half of the population in South Africa do not have a registered address. There has been an initiative to establish postal boxes for some rural communities but this has not proceeded to far beyond pilot phase.

Manona 2019 addresses the issue of street addresses as follows:

- “Support to an authoritative approach to street addresses
- “Data quality is critical to the country’s street address system for the purposes of managing “interaction between people, places and activities” (R. Bennett et al, p214). Various government agencies ranging from Independent Electoral Commission [IEC] to SASSA depend on valid street address information.
- “Albeit a different context, the Constitutional Court further strengthened the need for legal recognition of people-land relationships by demanding that all South Africans should have an address. A unanimous judgment in the Constitutional court written by Wallis AJ, in the matter Xolile David Kham and Others v Electoral Commission and Others, held that every voter must have an address for the healthy operation of our democracy at local government level.
- “As such elections take place in wards, it is vitally important and a legal requirement for the chief electoral officer, when registering a voter on the voters’ roll, to register that voter in the voting district in which they are ordinarily resident. The requirement that had not been observed by the IEC, providing all candidates with a copy of the relevant segment of the voters’ roll containing the addresses of voters in the ward with their addresses (“where such addresses are

⁵⁷ The CSIR and the Human Sciences Research Council, along with many other research and academic agencies are very active in this space.

available”) was seen by this court as a serious breach of the IEC’s statutory obligations.” (Manona, 2019, p. 40)

- Linked to the government’s mass housing programme (referred to as the RDP housing programme where houses are allocated to beneficiary households) an issue of title deeds not being issued to beneficiaries has arisen over the last fifteen years or so⁵⁸ (the Title Deeds Restoration Fund programme mentioned was designed to address this situation). This is a local variation of the ‘people without an address’ theme, and has emerged as a rather weak area in the otherwise productive state mass housing programme. A key recommendation of the LGAF assessment in 2013 was:
 - *Recommendation: Systems and procedures should be developed to address the backlog in RDP registration and transfer*
 - *Justification: There are approximately one million RDP housing units which are yet to be registered and transferred to the identified beneficiaries.*
 - *Short-term actions: The Department of Human Settlements should identify mechanisms to fast track the registration of RDP units. / [and then in the medium term the transfer of title deeds to households who do not have them] (Kitchin & Ovens, 2013)*

Laws and policies on (social) housing provisions

- In SA, the term social housing has come to refer to the state’s social rental housing programme. This is only one of many state housing programmes (and by no means the largest in terms of numbers of people impacted or units built). Presumably for the purposes of this scan and given the international, generally accepted use of the term, social housing then refers to all types of state-funded housing.
- The National Housing Code, revised regularly, governs the provision of housing under the different programmes. The targeting of the various programmes is outlined in the Code, including those specifically focused on women, indigenous peoples, youth, war veterans, people with disabilities, those affected by disasters, etc.
- Other specific constitutional, legislative and policy mandates of the Department of Human Settlements (including government policy frameworks) arise from:

⁵⁸ <http://www.urbanlandmark.org.za/research/x55.php>

- the Constitution of the Republic of South Africa
- Housing Act, 1997 (Act No 107 of 1997)
- Comprehensive Plan for the Creation of Sustainable Human Settlements (BNG)
- The Housing Consumer Protection Measures Act, 1998 (Act No 19 of 1998)
- The Housing Development Agency Act, 2008 (Act No 23 of 2008)
- Public Finance Management Act, 1999 (Act No 1 of 1999-as amended by Act No 29)
- The Social Housing Act, 2008 (Act No 16 of 2008)
- The Division of Revenue Act, 2011 (Act No 6 of 2011)
- The Rental Housing Act, 1999 (Act No 50 of 1999)
- Home Loan and Mortgage Disclosure Act, 2000 (Act No 63 of 2000)
- Inclusionary Housing Bill
- Sectional Titles Schemes Management Act (Act 8 of 2011)
- Community Schemes Ombud Service Act (Act 9 of 2011)
- Intergovernmental Relations Framework (Act No 13 of 2005)
- National Development Plan (NDP) and
- Spatial Planning and Land Use Management Act, 2013 (Act No 16 of 2013) (Department of Human Settlements, 2019)

Evidence of implementation and effectiveness of housing policies in practice

- The state is careful to evaluate its own delivery at all levels although quality, coverage and frequency of monitoring is variable.
- Information about housing interventions comes in the form of annual reports (Ref 82) and performance plans (Ref 83) by the Department of Human Settlements, General Household surveys on land ownership and housing in South Africa 2017 and full evaluation reports by the Department of Planning, Monitoring and Evaluation, such as the Impact and Implementation Evaluation of the Social Housing Programme (Ref 105) that details the status of the social housing programme in South Africa.

- For an interesting discussion of how the state counts and accounts for delivery of housing under its programmes refer (Illana Melzer and Christoph Garbers, 2019)
- The housing subsidy system (Ref 16) provides a national register of allocation of housing benefits from the beneficiaries list in conjunction with the National Housing Needs Register/Housing Demand Database (Ref 113) where citizens are offered the opportunity to register their need for adequate shelter.
- The National Human Settlements Land Indices (Ref 18) and the Land and Property Spatial Information System (Ref 30) are GIS-based decision-support tools used to guide and inform land identification and acquisition and perform inventory, respectively.
- The Sustainable Human Settlements Investments Potential Atlas (Ref 31) publication was aimed at guiding investment in housing and settlements. These decision support tools are important to assist government and other stakeholders make evidence-based decisions drawing on and analysing many different datasets. The CSIR’s own UrbanSIM modelling is another case in point, although not available online (at least as an interactive tool)⁵⁹.

INFORMAL SETTLEMENTS DATA

Table 11. Informal settlement data (sources from SA SoLI Matrix 06/12/2019)

| Ref | Name of dataset | Description | SoLI Code |
|-----|---|---|----------------------------|
| 29 | Informal settlement enumerations - SDI - Know Your City dataset | "Enumerations are essentially community-initiated and run censuses whereby a socio-economic and demographic profile is generated, and the tenure status, level of services and development aspirations are ascertained. Networks of the urban poor consciously adopt strategies of self-enumeration which becomes powerful negotiation tools in its dealings with governments. By leveraging its own resources through this exercise of information gathering, communities are best positioned to articulate a demand-sided development agenda. By making themselves "visible" to governments, informal settlement residents have the most up to date knowledge on how many households make up their settlement, how long they have lived there, and how they make a livelihood." (https://www.sasdialliance.org.za/what-we-do/enumeration/) http://knowyourcity.info/explore-our-data/country/?country=south-africa | 5b_HousingIn fSettsData |
| 61 | Planning for Informality | A breakdown of each of South Africa’s main metro’s informal areas and the associated statistics https://app.planning4informality.org.za/ http://app.planning4informality.org.za/home/city/ | 5b_HousingIn fSettsData |

⁵⁹ Refer http://stepsa.org/why_urbansim.html

| Ref | Name of dataset | Description | SoLI Code |
|-----|--|--|-------------------------|
| 75 | Cape Town Informal Settlements | A shapefile illustrating all the informal settlements in the City of Cape Town https://africaopendata.org/dataset/city-of-cape-town-gis-data | 5b_Housing/InfSettsData |
| 90 | Provincial Informal Settlements Status Reports | Report detailing the informal settlements in each province, including profiling the basic living conditions and access to services Collection of reports available via site search for "informal settlement status": http://thehda.co.za/ | 5b_Housing/InfSettsData |

Number of people living in informal settlements (disaggregated by gender etc. if possible)

- The Stats SA SuperWEB2 (Ref 108) can be used to formulate a table that shows the number of people living in informal settlements in the country
- See also the data story that deals with informal settlements.

Data and info about access to basic services within informal settlements

- Civil Society:
 - Planning for Informality (Ref 61) provides a breakdown of each of South Africa's main metro's informal areas and the associated statistics.
- Government:
 - Provincial Informal Settlements Status Reports (Ref 90) by the Housing Development Agency detail information pertaining to informal settlements in each province, including profiling the basic living conditions and access to services

Laws & policies on regularization of tenure in informal settlements

- For detailed treatment of this topic, refer (Roux, 2004).
- For more recent information, see also the National Upgrading Support Programme's resource site - <http://www.upgradingsupport.org/>⁶⁰

The Housing Act 107 of 1999 calls for all spheres of government to prioritise the needs of the poor in respect of housing development. The state must ensure that there is as wide a

⁶⁰ Especially <http://upgradingsupport.org/resources>

choice of housing and tenure options as possible, that they are economically, fiscally and socially affordable and sustainable and that they are administered in an equitable manner⁶¹.

The Housing Act also led to the Upgrading of Informal Settlement Programme (UISP) that allows municipalities to apply for government funding to redevelop informal settlements incrementally. This includes securing tenure.⁶²

Evidence on implementation and effectiveness of aforementioned regularization policies

- Civil Society: many initiatives undertaken by civil society assist in gathering information on informal settlements and monitoring state interventions
- Know Your City is one of these initiatives and with their informal settlement enumerations (Ref 29) residents are running community-led censuses and generating socio-economic and demographic profiles for settlements. The tenure status, level of services and development aspirations of each household are also documented.

DISPLACEMENT/EVICTION INFORMATION

Table 12. Housing displacement and eviction information (sourced from SA SoLI matrix 06/12/2019)

| Ref | Name of dataset | Description | SoLI Code |
|-----|---|---|--|
| 60 | Datasets by South African Legal Information Institute | An online repository of legal information pertaining to SA http://www.saflii.org/content/databases http://www.saflii.org/cgi-bin/search.pl | 5c_HousingDisplEvict 4b_DisputeInfo |
| 119 | Internal Displacement Monitoring Centre | "The Internal Displacement Monitoring Centre (IDMC) is the world's authoritative source of data and analysis on internal displacement. Since our establishment in 1998 as part of the Norwegian Refugee Council (NRC), we have offered a rigorous, independent and trusted service to the international community. Our work informs policy and operational decisions that improve the lives of the millions of people living in internal displacement, or at risk of becoming displaced in the future." http://www.internal-displacement.org/about-us http://www.internal-displacement.org/countries/south-africa | 7d_EnvNatDisasters 5c_HousingDisplEvict |

Number of displaced people (possibly disaggregated)

- The Internal Displacement Monitoring Centre (Ref 119) gives information about the number of people displaced in South Africa due to natural disasters.

⁶¹ <https://www.ohchr.org/Documents/Issues/Housing/InformalSettlements/SERI.pdf>

⁶² <https://www.ohchr.org/Documents/Issues/Housing/InformalSettlements/SERI.pdf>

- Other information about evictions may be found via the South African Legal Information Institute (SAFLII) if the event resulted in a court case. (Ref 60)
- It is possible that commercial banks might have to report on housing evictions (or ‘repossessions’ or ‘foreclosures’) to the Department of Human Settlements under the Home Loan and Mortgage Disclosure Act, but it is not clear whether this information is publicly available.

Statistics or other info about cause of displacement (conflict/violence, natural disasters, development, others) – refer earlier section on natural disasters

Legal framework

- Legal framework to prevent (arbitrary) displacement or evictions: supporting the SA Constitution, the Prevention of Illegal Eviction and Unlawful Occupation of Land Act 19 of 1998 (PIE Act) ensures that unlawful occupiers are granted protection from arbitrary eviction
- The Land Reform (Labour Tenants) Act 3 of 1996, the Interim Protection of Informal Land Rights Act 31 of 1996 and the Prevention of Illegal Eviction from and Unlawful Occupation of Land Act 19 of 1998 all provide security of tenure to particular classes of tenants. The legislation, however, does not prevent land owners from approaching a court of law for the eviction of those tenants, but it must remain equitable and just.⁶³

EXPROPRIATION

The issue of expropriation of land by the state has been discussed above (e.g. in the section on ‘The Constitution’). Under section 25(1) of the Constitution of the Republic of South Africa, 1996, expropriation of land and rights to land may be effected for a public purpose or in the public interest. Only the state has such authority (du Plessis, 2011). It is a very large topic encompassing issues as varied as mining on community land and all the way to land reform programmes as contemplated in the Constitution. The contemplation of changes to the Constitution in the Presidential Panel Report refer, and the much referred Expropriation Bill (refer p18).

As already mentioned, at time of writing a Bill outlining changes to the property clause is out for public comment (Republic of South Africa, 2019). The Bill in its current form does not

⁶³ <http://www.mondaq.com/southafrica/x/175986/Land+Law/The+Real+Estate+Law+Review+Introduction+To+The+Legal+Framework>

outline the circumstances in which expropriation without compensation would apply, but creates the space for legislation to be developed to address this.

There is extensive discussion of the legal processes in practice in the LGAF SA country report (Management of Public Land Kitchin & Ovens, 2013, p. 16).

Number of expropriations

- We are not aware of a national dataset that quantifies or locates land expropriations, other than searching through court proceedings.
- During the LGAF investigation process (2011/12), there was word of the existence of some kind of government record of land expropriations, but we were not able to get access to it at the time.

Statistics or information about provided compensation for expropriated people

- “Compensation occurs within a year for between 70% and 90% of expropriated land owners. However, complaints against expropriation need to follow an expensive process, which means that the poor have little recourse. There are capacity shortfalls (financial and staffing) around management of public land. Problems around expropriation include the fact that displaced households do not have comparable assets despite receiving compensation, and that unregistered rights, such as grazing, are not usually compensated. Major problems include the long period of time taken to resolve complaints about expropriation and the fact that disposal of public land has generally not been transparent.” (Kitchin & Ovens, 2013)

Legal framework for expropriation and compensation – already discussed

- Expropriation Act 63 of 1975: property may be expropriated only in terms of law of general application a) for public purpose or in the public interest; and b) subject to compensation, the amount of which and the time and manner of payment of which have either been agreed to by those affected or decided or approved by a court.⁶⁴

Evidence of implementation of legal framework in country

- A great deal – refer court proceedings datasets

⁶⁴ Basic Principles of Property Law:
[https://cdn.ymaws.com/www.sacqsp.org.za/resource/collection/876D0B9A-72A3-4AA9-B6F8-1BD0B2760F04/PSM_8_-_Basic_Principles_of_Property_Law_-__\(CPD\).pdf](https://cdn.ymaws.com/www.sacqsp.org.za/resource/collection/876D0B9A-72A3-4AA9-B6F8-1BD0B2760F04/PSM_8_-_Basic_Principles_of_Property_Law_-__(CPD).pdf)

GAPS

Access to official state delivery figures has, over the last ten years, become slightly more obscure. Expenditure on state housing programmes is fairly clear from national Treasury reports, but the information about the types of 'housing opportunities' that government is funding is less clear than it used to be.

Further information on this trend can be gleaned from two recent sources - (Gardner, Lockwood, & Pienaar, 2019; Illana Melzer and Christoph Garbers, 2019)

The seeming absence of a dataset (or register) of information about state land expropriations (if we are correct about this) is a gap (other than searchable information about expropriation cases in <http://www.saflii.org/>). Land claims, evictions and disputes information seems more accessible. It is possible that we just have not located a dataset on expropriations, and that it does exist.

CONCLUSION TO HUMAN SETTLEMENTS

Was this information hard to find? What were your methods to find this information?

- No, this is our core area of specialisation, so other than the gaps identified, the information was not hard to find.

What were the challenges?

- The challenges are to keep up to date with current information. For example, as mentioned, the Bill addressing the amendment to the property clause of the Constitution was released in mid-December 2019 just after the previous version of this report was completed.

Who are the main information providers for this information?

- Stats SA
- Department of Human Settlements
- Provinces and Municipalities
- National Treasury

7) LAND MARKETS AND FINANCING

The land taxation system was described in detail above in the section on ‘Taxation’, p32.

Panel 4 of the SA LGAF process covered land valuation and taxation, resulting in specialist recommendations in this area (Eloff et al., 2011). The final SA LGAF report also commented on strengths and weaknesses in the system (Kitchin & Ovens, 2013).

In terms of the debates about the balance between the dominance of property market economics in SA cities and towns as against the basic need and right to access land of large parts of SA society, refer to the bodies of work of Urban LandMark65 and SA Cities Network under their Inclusive Cities thematic area (especially their Urban Land Series66).

Outside of the private sector property sector and commercial data around property values and finance datasets that are available for purchase, we have not found a great deal of accessible online data. There are some exceptions (e.g. farm land transactions). It is possible that a property economist (or similar) would be able to refer us to more.

Table 13. Land markets and finance (sourced from SA SoLI 06/12/209)

| Ref | Name of dataset | Description | SoLI Code |
|-----|---|---|---|
| 19 | Municipal Money | "Municipal Money is an initiative of the National Treasury, which has collected extensive municipal financial data over several years and would like to share this information with the public. The aim is to make this data widely available in order to increase transparency, strengthen civic oversight and promote accountability." https://municipalmoney.gov.za/about | 6a_MarketValuation 1e_LegalTax |
| 4 | National Deeds Registry | The Deeds Office is responsible for the registration, management and maintenance of the property registry of South Africa. It contains metadata about the nature of property transactions. http://www.deeds.gov.za/ | 6b_MarketTransaction 2b_DataRegistry |
| 35 | Citymark: Interactive Housing Markets Insights 2017 Dashboard | A dashboard developed by a non-profit organisation (Centre for Affordable housing Finance in Africa - CAHF) showing the distribution of residential properties at the local area level by market segments, as well as key Municipal housing market indicators for the eight metros. http://housingfinanceafrica.org/dashboards/citymark/ | 6b_MarketTransaction |
| 36 | Citymark: Mortgage Lending in South Africa 2017 Dashboard | A dashboard developed by CAHF that highlights the levels of mortgage support for housing transactions and registrations by lending institutions in South Africa's eight metros http://housingfinanceafrica.org/dashboards/mortgage-lending-in-south-africa/ | 6b_MarketTransaction |

⁶⁵ <http://www.urbanlandmark.org/>

⁶⁶ <https://www.ukesa.info/partners/view/sa-cities-network> and <https://www.ukesa.info/library/view/the-urban-land-paper-series-volume-1>

| Ref | Name of dataset | Description | SoLI Code |
|-----|-----------------------------|--|----------------------|
| 98 | Land Traded in South Africa | Data on wards, municipalities and districts in South Africa by province, size in square kilometres and hectares and average land price https://africaopendata.org/dataset/land-traded-in-south-africa-agrids http://land.agrids.co.za/Statistics | 6b_MarketTransaction |
| 41 | Land Matrix | An independent global land monitoring initiative that provides information pertaining to land acquisitions in middle- to low-income countries https://landmatrix.org/country/south-africa/ | 6c_MarketInvestment |

LAND VALUATION

Land valuation is a key subject in a number of different university degree programmes in the country. It is of great interest of course to the private sector (e.g. the SA Property Owners' Association). There is not a national, coordinated system of property valuation as in some countries. The system of property rates at the local level and the issue of expropriation (both of which intersect with land valuation) have been covered already.

One of the data stories we have prepared ("What do trends in land market data reveal about spatial transformation in South Africa?") documented the way that land values differ across cities partly as a result of the overhang of the spatial segregation of the past and as a manifestation of ongoing inequality in society.

Legal framework for land and property valuation for various purposes (i.e. functioning of markets, security of loans etc.)

- "Property Valuers Profession Act 47 of 2000. The purpose of the Property Valuers Profession Act 47 of 2000 is "to provide for the establishment of a juristic person to be known as the South African Council for the Property Valuers Profession; to provide for the registration of professionals; candidates and specified categories in the property valuations profession; to provide for the regulation of the relationship between the South African Council for the Property Valuers Profession and the Council for the Built Environment; and to provide for matters connected therewith". (Boshoff, 2013)
- "Municipal Property Rates Act 6 of 2004 regulates the power of any municipality to impose rates on property. It also makes provision for fair and equitable valuation methods of properties, as well as for an objections and appeals process. With regards to valuation methods, it stipulates that properties are to be valued in accordance with the open market value basis of valuation which are to be performed by a municipal valuer registered in accordance with the Property Valuers Profession Act 47 of 2000. Increasingly mass-appraisal techniques are being used to value properties for this purpose, causing some differences between the municipal valuation and the market value if performed individually." (Boshoff, 2013)

- “Banks Act 94 of 1990 and Co-Operative Banks Act 40 of 2007: According to the Banks Act 94 of 1990 and section 20 of the Co-Operative Banks Act 40 of 2007, banks should have certain minimum credit ratings and capital reserves. According to this banks should provide information on the security that they take when granting loans. The largest of this is normally mortgages registered against immovable properties. The value of these properties need to be assessed by professional valuers and are normally carried out prior to the registration of the mortgage for loan approval purposes. This requirement for valuation of properties that are taken as security is also influenced by international agreements of good practice, such as the Basel accord, whereby it is required to also re-value their securitised assets independently from time to time. The latest Basel III has such strict requirements that assets may have to be re-valued as much as every year.” (Boshoff, 2013)

Valuation information and analyses by governments (if available)

- Land valuations are recorded mainly in municipal valuation rolls as already described and documented.
- As an example, the City of Cape Town provides two relevant datasets through their data portal, Cape Town Residential Property Valuations (Ref 76) and Cape Town Valuations Property Bands (Ref 77). The former details the median property valuations for every suburb in the City of Cape Town and the latter shows the number of properties falling within a certain valuation property band grouped by suburb.
- Municipal Money is an online tool started by the National Treasury that makes available extensive municipal financial data in order to increase transparency of government expenditure. Included in the information provided is property tax values. (Ref 19)

Evidence of implementation and effectiveness of land valuation framework

- The professionalization of valuation implies that land valuation is working, and certainly in the private property market it is the basis for how the market works.

LAND TRANSACTION INFORMATION

According to the SA LGAF report, assumptions around large-scale land acquisition for mining, agriculture and forestry by foreign companies is not a simple matter as to what is regarded as positive or negative in the SA context. The panel felt that some types of large scale land investments (e.g. for agriculture) might be acceptable “as long as the systems are transparent, socially responsible and environmentally sensitive.” (Ovens, 2012, p. 45) There

is a detailed discussion of the dynamics in SA on pages 45 to 49 of the SA LGAF country report.

In terms of land transaction price data across the whole country (not just large scale or rural), it is publically available from the Deeds Registry Office and online portal (Ref 4), however the process of acquiring the information is somewhat lengthy and costly. Other private companies, such as Lightstone, add additional value to the Deeds Registry information and it comes at an even higher cost. See discussion above in 'Land registry data', p42.

CityMark does a lot of work in providing the public with easily accessible data on property transactions and valuations in the eight major metros of South Africa – the two most relevant are the Interactive Housing Markets Insights 2017 Dashboard (Ref 35) and the Mortgage Lending in South Africa 2017 Dashboard (Ref 36)

The land traded in South Africa (Ref 98) dataset provides information on land traded per ward, municipality and district in South Africa by province. It also includes the average price.

Market transaction data of indigenous and community lands if available – customary land parcels are not available on the market in a conventional sense, although there is research around the direct and indirect (e.g. transaction) costs of land parcel allocation and exchange.

Evidence of implementation and effectiveness of land transaction framework – comment has been made about the reliability and quality of the datasets (e.g. deed registry data about transactions). The main point is that this covers the formally zoned market and gives a reasonably clear view of how that works. Understanding how the informal market works requires more in the way of primary research (refer again Urban Landmark and CAHF's work).

The Bibliography of Resources on Urban Land Issues in South Africa (Ref 37) provides the user with access to research, articles, guidelines, presentations, policies and legislation pertaining to land issues in South Africa

LAND INVESTMENTS INFORMATION

Legal framework for land investments

- There is no restriction on foreign investors acquiring property in South Africa and for foreign companies to acquire property they must register as an external company in terms of the Companies Act 2008.

- However there was talk in 2015 that restrictions on the amount of land that foreign companies could purchase would be put in place in the future, as per the Land Holdings Bill⁶⁷ and then the 2017 Agricultural Land Holdings Bill.

Land investments data (if possible, disaggregated by public and private investments, scale of land areas, indigenous/non-indigenous, foreign and domestic) and data or evidence of national government's foreign land investments (in other countries).

- The Land Matrix provides the user with particularly useful information on land acquisitions between countries, including by other countries in South Africa and by SA in the rest of the world (Ref 41)
- The Sustainable Human Settlements Investment Potential Atlas (Ref 31) is a publication based on spatial analysis that was aimed at guiding the locality of investments in housing and settlements by various stakeholders.

Private sector agencies and publicly-owned investment entities (such as the Public Investment Corporation) work with a range of property value datasets that are available commercially. Apart from their own property holdings data, these can include:

- MSCI – Investment Property Database - <https://www.msci.com/real-estate>
- the Rode Research Report – a quarterly panel measuring investor confidence - <http://www.rode.co.za/>
- the SA Property Owners' Association datasets, e.g. office and industry vacancy reports
- Global Trade Data from Harvard Centre for International Development.

Evidence of implementation and effectiveness of land investment framework

- This would be a complex question to answer and probably would need responses from the Department of Trade and Industry, and bodies like the Competitions Commission⁶⁸, the Fiscal and Financial Commission⁶⁹, the Estate Agency Affairs Board⁷⁰, the Property Sector Services Charter Council⁷¹, and SAPOA, not to mention all the bodies that represent and comment on fair market practice in

⁶⁷ <https://mg.co.za/article/2015-03-05-foreign-land-bill-a-setback-for-economy>

⁶⁸ <http://www.compcom.co.za/>

⁶⁹ <https://www.ffc.co.za/>

⁷⁰ <https://www.eaab.org.za/>

⁷¹ <https://www.propertycharter.co.za/>

agricultural, forestry and mining land. i.e. it is a specialist area with a fairly large ecosystem of its own.

GAPS

There is a general need for more accessible and legible datasets and information about land transactions and investments. There is a fair degree of transparency in this area because all transaction data are available, but with the limitations discussed above a number of times (i.e. relating to accessing data from the Deeds Registry).

Certainly there was a gap in knowledge around the extent of so-called foreign land owners (from high end coastal properties, to large agricultural holdings) as was evident when the Panel on Foreign Land Ownership was doing its work in 2007 (Department of Agriculture and Land Affairs, 2007). I think this derives from the fact that citizenship is not part of the information about transactions recorded for the Deed of Sale. I am not sure whether that has changed or whether anyone is monitoring this in light of both the Panel's findings and the Land Holdings Bill mentioned above.

CONCLUSION TO LAND MARKETS AND FINANCING

Was info hard to find? Methods to find info?

- Beyond the Deeds Registry and private companies such as Lightstone, available and free-to-access information on land markets and financing is generally hard to find.
- Municipal valuation rolls are all localised and therefore collation of up to date data takes effort and expertise, especially to make it spatially consistent and meaningful.
- Land valuation is dominated by the private sector and possession of accurate and up-to-date data is seen as part of their competitive advantage. Some evidence of this would be seen in the kind of events fees charged to attend annual conferences where market analysis and insights are shared (refer for example <https://www.sapoa.org.za/convention/>). That is the nature of the urban property market at least.

What were the challenges?

- Locating information on land investments was the greatest challenge.

Who are the main info providers?

- Municipalities
- Deeds Registry

- CityMark

To your knowledge, is this (gap in) data and information well-known to actors dealing with land governance in this country?

- Yes, it is well known. The state's role in land parcel valuation may, ironically, become more clear and systematically applied if new legislation around expropriation comes into effect, depending on the final nature of that legislation, and the regulations that are then developed around valuations.

8) LAND, CLIMATE CHANGE AND ENVIRONMENT

As with many of the other areas in this scan, this is a specialist area and more datasets would be revealed were different types of specialists to share their own knowledge of these. However, there is a large quantity of environmental data and information generally available online for South Africa both because of domestic and international efforts to make it so.

On the legal side, climate change mitigation requirements are quite a specialist field and one which is evolving. Based on experience, there is often a gap between what commitments are on paper and what is done in practice. However, the many departments involved in service delivery are obliged to report in terms of National Environmental Management Act (see next section) and most development projects are subject to Environmental Impact Assessments.

SUSTAINABLE LAND USE PLANNING INFORMATION

There is a fair amount of overlap between the sub-sections for this key category. Because there are many datasets we have divided the tables below, but please note the secondary key category codes in the right-hand column that indicate the overlaps.

Table 14. Sustainable land use planning (sourced from the SA SoLI Matrix 06/12/2019)

| Ref | Name of dataset | Description | SoLI Code |
|-----|--|---|---|
| 89 | 2015 Free State Terrestrial Critical Biodiversity Areas http://bgis.sanbi.org/SpatialDataset/Detail/608 | The key output of the systematic biodiversity planning process highlighting key areas to maintain in order to not loss important biodiversity features/ecosystems in the area | 7a_EnvLandUsePlan 7c_EnvProtectedAreas |
| 95 | Kwa-Zulu Natal Systematic Conservation Plan http://bgis.sanbi.org/SpatialDataset/Detail/334 | Shapefile showing terrestrial critical biodiversity areas in KZN developed in 2010 | 7a_EnvLandUsePlan 7c_EnvProtectedAreas |
| 99 | Mpumalanga Biodiversity Conservation Plan http://bgis.sanbi.org/SpatialDataset/Detail/263 | Categorized biodiversity value classes were determined for the Mpumalanga region and were intended to be used as a land-use planning tool for the Mpumalanga Tourism and Parks Agency (formerly the Mpumalanga Parks Board). | 7a_EnvLandUsePlan |
| 102 | 2015 North West Planning Units http://bgis.sanbi.org/SpatialDataset/Detail/601 | Planning unit layer of the North West used as an input to the MARXAN analysis tool to guide decision-making for conservation planning | 7a_EnvLandUsePlan |
| 109 | 2017 Western Cape Biodiversity Spatial Plan http://bgis.sanbi.org/SpatialDataset Use search term: capenature or filter by province Update 20191126 http://bgis.sanbi.org/Search?searchterm=capenature Link sent to Carlos | The product of a systematic biodiversity planning assessment highlighting Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) that require safeguarding in the Western Cape districts. Each dataset is specific to a Western Cape local municipality and named accordingly | 7a_EnvLandUsePlan 7c_EnvProtectedAreas |

Environmental Legal Framework (including climate change mitigation)

- The National Environmental Management Act 107 of 1998 (NEMA): The principal legislative framework that ensures the protection, promotion and fulfilment of the rights entrenched in the environmental clause under section 24 of the Bill of Rights. It contains a set of principles that serve as guidelines to inform any organ of state's exercise of a function when taking any decision that concerns the protection of the environment. (Kihato & Stephen Berrisford Consulting, 2007)
- Environmental Impact Assessment (EIA): NEMA requires environmental-related approvals for development that has the potential to impact on the environment, socio-economic conditions and/or cultural heritage, these are known as Environmental Impact Assessments. (Kihato & Stephen Berrisford Consulting, 2007)
- In the state housing programme sphere, the Monitoring, Evaluation and Impact Assessment (MEIA) Policy and Implementation Framework for the Human Settlements Sector, 2014, report prioritised the National Environmental Management Act (NEMA) (Act 107 of 1998). The Department of Human Settlements was at that stage explicitly positioning the importance of NEMA in their programmes of work. The document put forward measurable objectives for environmental management such as:
 - encouraging environmentally sustainable land use development,
 - promoting integrated development planning,
 - enhancing spatial planning for the development of sustainable human settlements,
 - addressing the needs and priorities of people living in informal settlements,
 - promoting environmentally sound low cost housing, and
 - planning for housing development.⁷²

⁷² From a working paper by M Napier, 2018, on National Policy on Science, Technology and Innovation in Sustainable Human Settlements, as part of the Status Quo Assessment report for the National Human Settlements Roadmap funded by the Department of Science and Technology.

Evidence of public monitoring of implementation of legal framework

- The South African National Biodiversity Institute (SANBI)'s mandate is provided by National Environmental Management: Biodiversity Act (derived from NEMA) in order to map bioregions and any potential threats, conservation needs and priorities that apply to them. SANBI is a major contributor to protecting and conserving South Africa's endemic species as is evident in their expansive Biodiversity GIS (BGIS), from which many datasets in the Land Matrix originated (Ref 89, 95, 99, 102, 109). The aim of the GIS data portal is to assist with biodiversity planning and decision-making. SANBI also runs and manages a number of Botanical Gardens around the country.
- Under the Department of Environmental Affairs⁷³, the National Environmental Management Act (NEMA) seeks to facilitate co-operative and sound environmental governance. *NEMA requires that each organ of state that has an impact on the environment should manage these impacts, and that this should be done through Environmental Implementation Plans (EIPs).* The main purpose of EIPs is to "co-ordinate and harmonise the environmental policies, plans, programmes and decisions of the various national departments that exercise functions that may affect the environment or are entrusted with powers and duties aimed at the achievement, promotion and protection of a sustainable environment"

LAND DEGRADATION INFORMATION

Please also refer to the section above on soil types in the section on 'Land cover data' page 50.

Table 15. Land degradation information (sourced from SA SoLI 06/12/2019)

| Ref | Name of dataset | Description | SoLI Code |
|-----|--|---|-------------------|
| 49 | Land Degradation Assessment in Drylands (LADA) | Land Degradation Assessment in Drylands (LADA) project. Department of Agriculture, Forestry and Fisheries (DAFF) "LADA is a scientifically-based approach to assessing and mapping land degradation at different spatial scales – small to large – and at various levels – local to global. LADA's main objective is to identify and understand the causes of land degradation and the impacts of land use, in order to enable adequate and sustainable land management solutions to be devised." http://www.fao.org/land-water/land/land-governance/land-resources-planning-toolbox/category/details/en/c/1036360/ http://www.sasdi.net/sresults.aspx?text=Land+degradation | 7b_EnvDegradation |

⁷³ Now renamed

| Ref | Name of dataset | Description | SoLI Code |
|-----|---|---|-----------------------------------|
| 92 | Global Assessment of Human-Induced Soil Degradation | A global map of human-induced soil degradation International Soil Reference and Information Centre https://data.isric.org/geonetwork/srv/eng/catalog.search#/metadatan/a/9e84c15e-cb46-45e2-9126-1ca38bd5cd22 | 7b_EnvDegradation |

Data on proportion of degraded land over total land area

- In partnership with the Land Degradation Assessment in Drylands (LADA) and the International Soil Reference and Information Centre (ISRIC), the Global Assessment of Land Degradation and Improvement (GLADA) Report 2008/01 stated that South Africa has 351,555 km² of degraded area that makes up 28.82% of the total territory (Ref 49)
- South Africa is one of the GLADA partner countries
- The Soil and Terrain Database (SOTER) for South Africa (Ref 118) was covered above

Data or information on causes of land degradation in country

- The Global Assessment of Human-Induced Soil Degradation (GLASOD) (Ref 92) recognized five causal factors:
 - i) deforestation and forced removal of the natural vegetation,
 - ii) overgrazing,
 - iii) agricultural activities,
 - iv) overexploitation of vegetation for domestic use and
 - v) (bio)industrial activities and highlighted that South Africa is highly susceptible to water erosion.

PROTECTED AREAS INFORMATION

Table 16. Protected Areas Information (sourced from SA SoLI 06/12/2019)

| Ref | Name of dataset | Description | SoLI Code |
|-----|--|--|--|
| 8 | South African Protected Areas Database https://egis.environment.gov.za/ - see SAPAD download link https://portal.environment.gov.za/portal/apps/webappviewer/index.html | South African Protected Areas Database (SAPAD) - Q1, 2019 The Protected Areas Register was developed for reporting and mapping purposes of Protected Areas in SA. All legally declared Protected Areas (based on the latest SAPAD data release), can be searched and viewed through the use of the Protected Areas Register (PAR) Interactive Map Service. Users can also generate reports and statistics from this Map Service. For more information go to the PAR Project Page | 7c_EnvProtected Areas |
| 50 | Register of Protected Areas https://mapservice.environment.gov.za/par/parmapservice.aspx | Department of Environmental Affairs (DEA), which is becoming the Department of Environment, Forestry and Fisheries. | 7c_EnvProtected Areas |
| 104 | National Spatial Biodiversity Assessment Terrestrial Protected Areas http://bgis.sanbi.org/SpatialDataset/Detail/150 | Complete compilation of the protected areas in South Africa using data from multiple different sources, such as South African National Parks (SANParks) and the Department of Environmental Affairs and Tourism (DEAT) | 7c_EnvProtected Areas |
| 100 | 2016 Northern Cape Critical Biodiversity Areas (CBAs) http://bgis.sanbi.org/SpatialDataset/Detail/658 | Dataset highlights the biodiversity priority areas and protected areas in order to preserve the biodiversity in the area | 7c_EnvProtected Areas 7a_EnvLandUsePlan |
| 101 | 2015 North West Terrestrial Critical Biodiversity Areas (CBAs) http://bgis.sanbi.org/SpatialDataset/Detail/602 | An updated map of CBAs in the North West to be used in the planning domain | 7c_EnvProtected Areas 7a_EnvLandUsePlan |

Data or info on proportion of protected areas over total land area

- Much of the data provided for the Sustainable Land Use Planning Information also corresponded to protected areas.
- The E-GIS data portal on the Department of Environmental Affairs' website provides even more datasets, such as the South African Protected Areas Database (Ref 8) detailing the overall extent of national protected areas, from botanical gardens to national parks and marine protected areas.

Data or info on existing restrictions of land use or access with regards to protected areas

- Historically, South African protected areas were exclusionary and led to the displacement of local communities that lived off the land, which ultimately resulted in the need for a more human-centred approach to natural resource management. This is accomplished through the National Environmental Management: Protected Areas Act. Therefore, there are a number of different categories of protected areas in order to accommodate local communities and South African citizens, to protect biodiversity and to contribute to economic development, where feasible. (Paterson & Marine and Environmental Law, 2009)

Evidence on compliance with restrictions of land use or access with regards to protected areas

- We do not have a clear overview of this in the last five years. In 2012, for the rural context, the LGAF country report makes the following observation:
 - “It is difficult to adequately comment on the restrictions of land rights in rural areas due to the wide variations found within the rural settings in South Africa. While there are limited to no restrictions on owner type and price, there is an array of restrictions on land use relating to a vast range of legislation such as:
 - Communal Land Rights Act, 11 of 1998
 - National Water Act, No 36 of 1998
 - National Environmental Management: Biodiversity Act, No 10 of 2004
 - National Veld and Forest Fires Act, No 101 of 1998
 - National Forest Act, No 30 of 1998
 - National Environmental Management: Protected Areas Act, No 57 of 2003
 - The extent to which the above legislation is enforced again depends on the setting. While legislation does not distinguish between underlying systems of tenure it is very unlikely that enforcement takes place in communal areas. It should also be noted that the enforcement capacity within the rural areas is diminishing across all government spheres and sector departments.” (Ovens, 2012)

NATURAL DISASTERS INFORMATION

Table 17. Natural disasters information (sourced from SA SoLI 06/12/2019)

| Ref | Name of dataset | Description | SoLI Code |
|-----|--|---|--|
| 119 | Internal Displacement Monitoring Centre http://www.internal-displacement.org/countries/south-africa | "The Internal Displacement Monitoring Centre (IDMC) is the world's authoritative source of data and analysis on internal displacement. Since our establishment in 1998 as part of the Norwegian Refugee Council (NRC), we have offered a rigorous, independent and trusted service to the international community. Our work informs policy and operational decisions that improve the lives of the millions of people living in internal displacement, or at risk of becoming displaced in the future." http://www.internal-displacement.org/about-us | 7d_EnvNatDisasters 5c_HousingDisplacement |
| 86 | Emergency Events Database https://www.emdat.be/emdat_db/ | Launched by the Centre for Research on the Epidemiology of Disasters (CRED) in order to try prepare for and mitigate future natural disasters as well as assess vulnerability in an area | 7d_EnvNatDisasters |
| 87 | Green Book : Municipal Risk Profiles and Adaptation Actions Tools https://greenbook.co.za/ https://riskprofiles.greenbook.co.za/ https://adaptationactions.greenbook.co.za/ | A set of interactive, online tools based on climate and other models designed to support municipal planning to enhance the development of climate resilient settlements. The long term aim is to help mainstream climate change adaptation into local government planning | 7d_EnvNatDisasters |
| 110 | CapeNature Fires - All 2016\17 http://bgis.sanbi.org/SpatialDataset/Detail/600 | CapeNature created this dataset as part of their fire management policy to provide a record of the fire history in areas managed by CapeNature | 7d_EnvNatDisasters |

Data on number of natural disasters per year (including disaggregation by type of natural disaster)

- The Emergency Events Database (EMDAT) highlights the number and type of natural disasters per year(s), the number of people affected and deaths due to the disaster, as well as the total economic cost of damage (Ref 86)

Data on number of displacements due to natural disasters

- The Internal Displacement Monitoring Centre (IDMC) (Ref 119) details the number of internal displacements in South Africa each year due to conflict and environmental disasters. It uses graphs that show each year, the type of disaster and how many people were displaced as a result

Legal framework for disaster risk reduction and natural disaster response

- Disaster Management Act: The national act created to ensure the prevention and reduction of disaster risk, to mitigate the impact of disasters and to ensure

effective disaster emergency response and post-disaster recovery. It is used as a means to regulate national, provincial and municipal disaster centres.

- The Department of Human Settlement, as part of its national Housing Code, has an Emergency Housing Programme that is designed to respond to disaster situations where people lose homes. Research is needed on the performance of this programme. The Monitoring, Evaluation and Impact Assessment (MEIA) Policy and Implementation Framework for the Human Settlements Sector, 2014, is the framework under which this would be reported.

Evidence on uptake and implementation of legal framework

- There is a clear management system in place with institutions responsible for specific aspects.
 - Disaster Management Centre: Under the Disaster Management Act, the Disaster Management Centre is responsible for developing a repository of information on disasters, impending disasters and disaster management (Schwabe & Govender, 2012)
 - The National Disaster Management Centre is online and accessible to the general public. It includes a Disaster Risk Vulnerability Profile map and has an early warning advisory section, however, the data does not appear to be updated regularly or to be effective in documenting disaster information over the years.
 - The centre does help fund emergency relief and post-disaster reconstruction and rehabilitation
 - The CSIR Advanced Fire Information System (AFIS) is a satellite-based fire information tool that is used by government and the general public to facilitate with early prediction, detection, monitoring, alerting and planning of fires.

A cross cutting environmental tool is the Green Book: Municipal Risk Profiles and Adaptation Actions Tools (Ref 87) that can be used to support municipal planning to enhance the development of climate resilient settlements based on a range of risk factors.

GAPS

The least extensive subcategory belonged to the land degradation category. While there was enough information available, it did not at first seem thorough or detailed and a clear picture of the causes of land degradation were lacking for South Africa as a whole.

However, this view is subject to correction by specialists in this field.

CONCLUSION TO SUSTAINABLE LAND USE PLANNING AND INFORMATION

Was info hard to find? Methods to find info?

- Information was hard to find. The strategy implemented was to search extensive data portals, such as BGIS, using keywords in order to find the relevant information. Often this would lead to another data portal/website that would provide further information.

What were the challenges?

- Finding datasets that wholly answered a subcategory was the greatest challenge as often datasets only partially gave the required information. For example, the SANBI BGIS datasets would have terrestrial protected areas datasets for six out of the nine provinces but would not have anything on the remaining three. Or the IDMC would detail the number of people in the nation displaced by a natural disaster but not tell you how many natural disasters occurred in a given year.
- It was also challenging to always find up-to-date information. Often, data portals would not be regularly updated and datasets would be exactly what you were looking for but they were outdated.

Who are the main info providers?

- In general, the environmental data in South Africa is expansive. For example, the SANBI BGIS provides users with a wide range of freely available data pertaining to anything from land conservation to marine monitoring areas and species protection to strategic water source areas in the country. Not all the datasets found in the portal related to the categories required for this section, but there was still a lot of information provided.
- International organisations such as the Internal Displacement Monitoring Centre, EMDAT and the FAO's LADA

9) CONCLUSION

THE CURRENT CONTEXT AND ITS COMPLEXITY

The scan of South African, online, land information has been complex not least because of the size, breadth and growth of the amount of data and information in the ecosystem.

In addition, and as demonstrated in this report, the legal basis for land governance and the institutional framework for governing land have both been rather fluid over the last few years, to put it mildly.

The issue of land reform was a key political issue on which the mid-2019 national election was fought. And the rationalisation and reshuffle of the Cabinet after the election is still having a cascade effect particularly on the departments and agencies that manage land and data.

At the time of the last major assessment of the situation in the country, the Land Governance Assessment Framework exercise released in 2012, the call for fundamental reform of planning legislation was clear but at the time the Spatial Planning and Land Use Management Act (SPLUMA) was still in draft form. It was promulgated in 2013, only seven years ago, and fundamentally altered the planning system in the country. The overlap in the roles of provinces and municipalities in their efforts to deliver land, services and housing were clarified in SPLUMA, but in practice in many cases they are still not fully resolved.

Also when the LGAF assessment was done in 2012, the reform of the cadastre and deeds registry were extensively discussed after a 2011 review of the systems. Some of what was suggested then has materialised now (e.g. the recent promulgation of the Electronic Deeds Registration Systems Act 19 of 2019), but the more fundamental reform of the Deeds Registry and the wider land administration system have been rather slow to change. Renewed calls for this reform of land administration from the Presidential Panel give energy to this much needed initiative.

The Spatial Data Infrastructure Act of 2003 was a key piece of legislation in seeking to rationalise responsibilities and custodianship of the main base spatial datasets. Its implementation is ongoing, with the development and launch of the National Spatial Planning Data Repository still awaited. Until the key custodianships and the national repository are mostly resolved, the picture remains a moving picture.

OBSERVATIONS ON THE CURRENT STATE

As an overview emerging from this scan, it is possible to make very generalised, high-level observations about the current state of the land information ecosystem in South Africa. These characteristics can each be seen as positive or negative, depending on one's viewpoint, and even some of the limitations in the system are seen as opportunities by other actors.

- i. There are a great number of actors and/ or stakeholders from many sectors, and who operate at many levels (national to local) that are part of the SA land ecosystem.
- ii. Within this 'population' of actors (working across all the key categories for this scan, all the way from land rights to earth observation), there are many subsets or groups representing the interests of different professions and disciplines. These groups sometimes interact effectively. At other times they remain fairly isolated from one another. This results in the often-repeated statement that the South African actors tend to work in 'silos'. Given the breadth and size of the ecosystem with many different types of professionals and societal interest groups it is perhaps not surprising.

This means that, for example, there are often mutually isolated groups working on policy, data and implementation in areas such as rural development, environmental management, housing delivery, municipal financing, private sector development, financing and investment, and land and housing rights (to mention a few). They tend to have different disciplinary approaches and work off slightly different, although sometimes overlapping, datasets. This is inevitable of course, but coordination of datasets and their accessibility would make a great deal of sense from many different perspectives (see more about this below).

This is not to imply that all datasets and decision support systems can or should be merged (as sometimes suggested), but that there should be greater coordination and interconnection / interoperability between the systems, and more sharing of underlying data that drives the systems.

One of the advantages of doing this scan is the potential it has to reveal to people working in their disciplines, and silos, the richness of data that is available in other areas; by promoting a kind of anti-silo SOLI approach to datasets.

Similarly, in some sectors the distance between state and non-state actors can be very wide. Or, in other cases it can be quite functional. For example, in the last ten years some commercial property sector interests and state departments have engaged quite well (e.g. SAPOA and Department of Human Settlements).

- iii. Another general observation is that (in my opinion based on experience and the scan exercise) in many, if not most, sectors there is an enthusiastic embrace of making land data available online. There is evidence of a great deal of energy and investment. It seems, however, that in many sectors, there is somewhat inadequate attention to establishing shared protocols for data. For example,
 - a. achieving inter-operability of systems even across government departments and agencies,

- b. pursuing other good practices designed to avoid duplication of effort and expenditure (e.g. the state's tendency to buy the same datasets from commercial vendors because of prevailing licensing conditions and lack of coordination between and within state departments), and
- c. a lack of attention to sustaining online datasets (e.g. finding and establishing funding models and the capacity to keep data up to date, and to upgrade platforms over time as technology and tools for analysis and communication of data continue to rapidly evolve).

This presents an interesting point for reflection on the fundamental principle of open access to data. If like the Deeds Registry, they charge a small fee to access individual title deed information, and this provides additional funding to the state to keep data available for limited numbers of queries, this might be seen to represent a viable business approach. However, this approach also makes it expensive for accessing data to run much larger queries unless a deal is struck with the state as data supplier. So, what is the correct in-principle approach in funding the maintenance of data versus making it freely available? Clearly the principles vary for very different types of data (e.g. making legal proceedings available versus imagery generated by commercial satellites) and so needs to be debated and established for each case.

The access to public information legislation discussed in this report is relevant here, along with finding ways to make data available on a viable basis. But if there is a general movement towards achieving the balance between more open access and viable funding models to maintain and improve data access for different user types (e.g. for-profit and not-for-profit organisations) then these objectives should, it seems, be pursued in tandem.

- iv. A definite improvement in the SA ecosystem is the ongoing move towards clearly defining custodianship of the base datasets by government departments and agencies. The move towards establishing the National Spatial Planning Data Repository is another unfolding process.
- v. It can be said that levels of awareness of the principles of transparent government and open access to data are very variable across government. Departments whose central business is managing data are sometimes much more aware of the data issues and trade-offs than departments whose core business is delivery (e.g. of land, infrastructure and housing) and who generate data almost as a by-product of their work. More work is needed in working on open data and transparent government. The Academy of Science of South Africa and many others, like StatsSA and COGTA, have been doing good work towards this end.

- vi. Linked to the discussion of the roles of state agencies in making data available, the role of private sector data vendors working off government datasets and retailing that information is a complex current reality of the SA ecosystem. The downstream opportunities for commercialisation can be a positive aspect that private agencies are well suited to play, but these commercial opportunities should, possibly, not arise simply because the state is not adequately managing the quality and availability of the data that it is legally obligated to provide.
- vii. The flip-side of the advantages that should materialise from clearer custodianship of datasets within government (some advantages being that the custodian of a dataset must maintain and make data freely available), is that this movement can close out departments and agencies who previously worked on specific datasets and now fall outside of the appointed custodian's organisation. This happened in climate forecasting where individuals in state agencies working on climate modelling were suddenly obliged not to continue with their work because custodianship of weather data had moved to the SA Weather Service. The unintended consequence is that some officials moved out of government and into the private sector in order to continue their work meaning that the state now buys back that value-added information that it previously generated in-house.
- viii. On another front, civil society organisations are very active in the area of land information in many areas including championing both open access to data, generating data through and for citizen empowerment, improving access to data for citizens and other decision makers, and using data for a variety of advocacy purposes. Again the breadth of civil society activity is wide, from using data for raising awareness of, and resisting, evictions, to promoting small-scale agriculture, to drawing attention to the effects of climate change, to mention a few.
- ix. As we have seen, the commercial development and financial sectors involved in producing and managing residential, retail, office, industrial space, is a large, well-established grouping. They tend to work with their own datasets but the interface between the data they source and generate, and the state-generated data that has mostly been the focus of this scan, is a very important one. In my experience, the private sector is always interested in what government is planning to do (whether from a regulatory or an investment perspective). At the same time, as the fiscus shrinks, the SA government is more interested than before in how the private sector might be mobilised to achieve more inclusive development of land. The relationship and use of data between the public and private sectors is of course particularly germane to the discussions of how to achieve more effective and efficient land reform, both urban and rural, not least when it comes to land valuation.

These observations are at best generalisations, but have been presented to try and identify the main characteristics of the current state of land information in South Africa. They can very well be peer reviewed and subject to more expert assessment and opinion.

WHAT NEEDS ATTENTION

At a more detailed level, the issue of overly localised and inconsistent data on land use zoning, on municipal valuation rolls, and on street addresses, are just three examples of what needs attention.

The devotion to being accountable has placed great pressures on municipalities to report to national government departments on so many areas of work that the SA Local Government Association has had to call for a process to rationalise what municipalities need to report on, and to whom. This has resulted in a more stable set of agreed reporting indicators for municipalities, although that process is ongoing.

Then within this complex set of reporting frameworks that co-exist, the percolation of all manner of data from the local and the municipal levels upwards to national databases (e.g. deeds data, state delivery data, expenditure information, etc.) is variable in its efficiency and consistency depending in each case on what kind of regulation and system are in place.

There is so much data about, for example, who lives where, and yet the country finds it difficult to conclusively measure the degree to which there has been a transformation away from the land ownership patterns of the past, and towards a more egalitarian distribution of resources. This is evident in the competing land audits of 2017, and even the need to have to commission special land audits without the data being continuously accessible from existing datasets.

At this point, we are not going to hazard further recommendations other than to refer the reader to the conclusions to each of the key category sections above, to refer back to the expert panel findings of the original Land Governance Assessment Framework that emerged from the 2012 process, and then to reiterate the recommendations of the much-quoted 2019 report of the Presidential Advisory Panel on Land Reform and Agriculture

Further recommendations about the accessibility of the SA land information ecosystem should emerge after the open data assessment by Land Portal.

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Appendix A

Source: Schwabe and Govender, 2012 - Stakeholder survey on defining the criteria and identifying core geospatial datasets and data custodians in South Africa

Table 4: Categories and themes for core geospatial datasets in South Africa

| PRIMARY | | | |
|---------|-------------------|--------------------------|--|
| LEVEL | CATEGORY | THEME | DATASET |
| 0 | Primary reference | Geodetic Control Network | Geodetic control points, height datum and geoid model |
| | | Rectified imagery | Aerial photography and satellite imagery |
| | | | Satellite imagery (all resolutions and types) |
| I | Base geography | Cadastre | Cadastre (includes land parcel boundaries and deeds register attributes) |
| | | Hypsography | Spot heights |
| | | | Contours |
| | | | Digital elevation models |
| | | | Slope |
| | | | Bathymetry |
| | | Hydrography | Water courses (e.g. streams and rivers) |
| | | | Drainage networks (e.g. canals, catchments, runoff) |
| | | | Water bodies (e.g. dams, lakes) |
| | | | Water resources (groundwater, boreholes) |
| | | Transportation | Streets |
| | | | National roads |
| | | | Main, secondary, other |
| | | | Rail |
| | | | Ports of entry (e.g. Airports, customs, border control points, harbours) |
| | | Natural resources | Geology (faults, minerals, geochemistry, geomorphology, geotechnical) |
| | | | Soils |
| | | | Land cover |
| | | | Biodiversity (i.e. vegetation, ecosystems and status, forests, wetlands) |

| SECONDARY | | | |
|-------------------|------------------------------------|----------------------|---|
| LEVEL | CATEGORY | THEME | DATASET |
| II | Administration | Addresses | National Address Database (provides for 12 address types as defined in SANS 1883) |
| | | | Postal Addresses (rural addresses, postal service addresses and postal code boundaries) |
| | | Population | Enumeration areas and small area layer (with census and demographic attributes attached) |
| | | | Population estimates |
| | | Geographical names | Place names (may be a point or polygon feature - e-gazetteer or town, village, suburb, etc.) |
| | | | Feature names (e.g. names of rivers) |
| | | Administrative areas | National, provincial, district municipality, local municipality |
| | | | Magisterial districts |
| | | | Voting districts |
| | | | Wards |
| | | | Police station boundaries |
| | | Service districts | Health, education, metropolitan regions, fire protection associations, licensing, water management areas, etc. |
| Government assets | State land, buildings and property | | |
| III | Built environment | Human settlements | Communities or populated places (i.e. cities, towns, villages, urban settlements, informal settlements, traditional areas, farming settlements) |
| | | | Dwelling frame (i.e. different types of housing) |
| | (Physical infrastructure) | Government services | Education facilities (ECD, primary schools, secondary schools, ABET, tertiary institutions) |
| | | | Health facilities (hospitals and clinics, nursing institutions) |
| | | | Police stations and prisons |
| | | | Magistrate and high courts |
| | | | Social grant pay points |
| | | | Home Affairs offices |
| | | | Labour centres |
| | | | Thusong Service Centres |

| SECONDARY | | | |
|-----------------------|--------------|--|---|
| LEVEL | CATEGORY | THEME | DATASET |
| | | | Libraries |
| | | | National, provincial and municipal offices) |
| | | Infrastructure | Water (dams, reservoirs, pipelines) |
| | | | Energy (power stations, electrification network) |
| | | | Sanitation (sewerage works, pipelines) |
| | | | Solid waste (refuse sites, recycling plants) |
| | | | Telecommunications (e.g. coverage, license areas) |
| | | | Agriculture (e.g. irrigation schemes) |
| | | | Drainage (storm water drains) |
| | | | Amenities |
| | | Community halls | |
| | | Parks and cemeteries | |
| | | Fire stations | |
| | | Museums, cultural and environmental heritage sites | |
| | | Markets | |
| | | Protection services | |
| | | Mining | Mines |
| | | Zonation | Agriculture |
| | | | Commercial and industrial areas |
| | | | Human settlement developments |
| | | III | Biophysical |
| Crop estimates | | | |
| (Natural environment) | Conservation | | Protected areas |
| | | | Marine and Coastal management (Fisheries, etc.) |
| | | | National parks, game reserves |
| | | | Soil degradation |

| SECONDARY | | | |
|-----------|----------|---------------------|--|
| LEVEL | CATEGORY | THEME | DATASET |
| | | | Deforestation |
| | | | Threatened ecosystems |
| | | Climatology | Rainfall, temperatures, wind, humidity, drought, hail, lightning, snow, etc. |
| | | | Weather stations |
| | | Land potential | Land capability |
| | | | Soil potential |
| | | | Agricultural and forestry potential |
| | | | Grazing capacity |
| | | Disaster management | Fires, hurricanes, tornados, drought, flood lines, geo-hazards |
| | | Environment | Coastline and high water mark |
| | | | Bioregions and ecosystem |
| | | | Environmentally sensitive areas |

| TERTIARY | | | |
|----------|---------------------------------------|----------------------|---|
| LEVEL | CATEGORY | THEME | DATASET |
| IV | Socio-Economic (Human environment) | Poverty | Poverty line and Gini coefficient |
| | | Employment | Employment/unemployment |
| | | Crime | Crime rates |
| | | Economic | GDP, income |
| | | Sport and Recreation | Tourism and Sport Facilities (attractions, blue flag beaches) |
| | | Livelihood Zones | Livelihood |
| | | Electoral | Election results |
| | | | Party representation |
| | | Public transport | Bus, taxi and rail routes |
| | | | Transport corridors |

| TERTIARY | | | |
|----------|----------|---------------------|---|
| LEVEL | CATEGORY | THEME | DATASET |
| | | | Traffic volumes |
| | | Business | SMEs |
| | | Finance | Capital projects |
| | | | Access to finance (e.g. savings) |
| | | | Banks |
| | | Land management | Land redistribution and restitution |
| | | | Concessions |
| | | | Land tenure |
| | | Registers | Population, mortality, births, ID documents |
| | | Household surveys | Labour force, General household, Income and Expenditure |
| | | Planning | Proposed and approved applications for development |
| | | | Proposed townships |
| | | | Proposed transport networks |
| | | Navigational points | Points of Interest |