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**The value of addresses to the economy, society and governance –
a South African perspective**

Abstract: South Africa has started the process of developing standards for all forms of addresses such as a street address, postal address, and fixed abode for legal processes (e.g. opening a bank account). These standards have to deal with addresses in formal and informal areas, as well as urban and rural areas. The process has highlighted the value of addresses to the economy, society and governance, and we have found just how complex an address can be!

The paper presents examples that illustrate the benefits of addresses in South Africa, such as:

- Connecting households to utilities such as water, sewage, telecommunications and electricity;
- Routing emergency services, and providing assistance during disaster management;
- Allowing retail outlets to provide delivery services to their customers in all areas of the country;
- Postal delivery – government policy is to provide every citizen with mail delivery to their place of residence, as opposed to just centralized post boxes;
- Planning and execution of elections and household surveys such as the Census;
- Providing proof of residential address for opening a bank account with a financial services institutions (as required by legislation to combat money laundering); and

- Finding your friends and family!

Most importantly, South Africa's Constitution gives every citizen the right to various services for which they need an address, e.g. utilities, education, health care, and social security. Addresses provide people with status: an address says that you are a recognized citizen of the country.

We will show examples of how newly allocated addresses have contributed to the local economy, society, and governance. We believe benefits are applicable in other countries as well.

INTRODUCTION

South Africa has started the process of developing a standard for all forms of addresses such as a street address, a postal address, and fixed abode for legal processes (e.g. opening a bank account). These standards have to deal with addresses in formal and informal areas, as well as urban and rural areas.

The Nobel Laureate, Desmond Tutu, coined the term *Rainbow Nation*, referring to the cultural and racial diversity of the country, which was popularized through its use by first South African president in the post-apartheid era, Nelson Mandela, in his Inaugural Address:

> "*We enter into a covenant that we shall build the society in which all South Africans, both black and white, will be able to walk tall, without any fear in their hearts, assured of their inalienable right to human dignity - a rainbow nation at peace with itself and the world*" (Mandela 1994).

The fact that South Africa has eleven official languages, listed in Table 1 below, illustrates this diversity. The figures in the following paragraphs aim to give more background information about South Africa, for understanding the value of addresses to the economy, society and governance.

TABLE 1. OFFICIAL LANGUAGES OF SOUTH AFRICA

Afrikaans	Southern Sotho
English	Northern Sotho
IsiZulu	Tsonga
IsiXhosa	SeTswana
SiSwati	Venda
Ndebele	

According to the 2007 estimate, South Africa has a population of 47.9 million (Statistics South Africa, 2007b). The country is divided into nine provinces, and 262 municipalities (local authorities) of which six have metropolitan status. According to the most recent Census, conducted in 2001, there are around 11 million households in South Africa (Statistics South Africa, 2003). In 2002, 66.1% of these households had access to running water. This figure has increased to 71.3% by 2006, illustrating the government's commitment to supplying services to its citizens. In 2002, 12.7% of all households lived in informal structures (often referred to as shacks). This figure increased to 15.9% in 2005 and declined slightly to 14.5% in 2006 (Statistics South Africa, 2007a).

The official cadastre identifies around 7 million land parcels; however, there are many more "properties" in tribal areas, where the local chief allocates land to the members of the tribe, and informal settlements around in urban areas. According to the deeds registry, there are around 500,000 sectional title properties where there is more than one property on a land parcel (eg: in a block of flats). The largest address database currently available in South Africa has 3.7 million addresses. However, the question of how many addresses there really are in South Africa (or should be), remains as yet unanswered.

The South African address standard states that an address *unambiguously specifies a point of service delivery,* which is the *actual location where a service could be provided* (SANS/WD 1883-1, 2007). This definition highlights the importance of recognizing that an address is for all forms of service delivery, and not just for postal delivery. This is particularly important in a country where many people do not yet have access to basic services such as running water, electricity, sewerage and waste removal, and an address is critical for the utilities and authorities rolling out the delivery of services to them.

The objective of the rest of the paper is to 1) give some background information about addresses in South Africa; 2) describe the address types that are defined in the South African address standard; and 3) show the value of addresses to the economy, society and governance in a South African context.

**BACKGROUND ON ADDRESSES IN SOUTH AFRICA**
In South Africa, as in many other countries, there are many sources of address-related data. South Africa does not have an official address register that requires citizens to report their current residential address, as is the case some countries. Table 2 lists some sources of address-related data in the country.

Some of the datasets in Table 2 complement one another, such as the cadastre from the Surveyor General and the address data from municipalities, while other datasets contain contradictory and/or ambiguous data, such as the address data from municipalities and the address data from the South African Post Office, as illustrated in Figure 1.

TABLE 2. SOURCES OF ADDRESS-RELATED DATA

OWNER	DESCRIPTION
Surveyor General	One integrated digital cadastre for the whole country.
Registrar of Deeds	Property ownership
Chief Directorate Surveys and Mapping	Topographical maps
Municipalities	Allocation of street addresses and data required for the collection of property taxes.
South African Post Offices (SAPO)	Delivery of postal mail.
South African Geographical Names Council	Standardizing geographical names, with a strong focus on redressing, correcting and transforming the geographical naming system.
Utilities	Data required to deliver services such as electricity and telecommunications. The focus is on actual service delivery points.

FIGURE 1.Different address sources for the same service delivery point
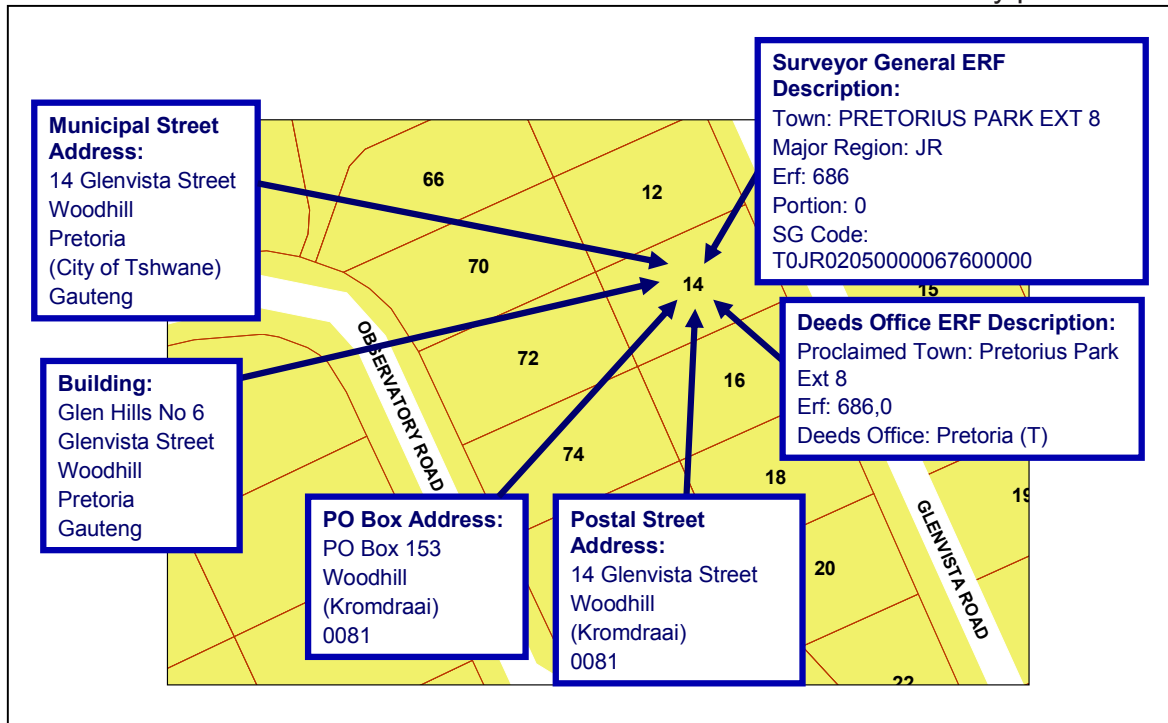
Urbanization in South Africa causes people to flock to the cities faster than proper serviced dwellings on formal properties can be provided. The result is that informal settlements consisting of many dwellings on a single cadastral land parcel often appear on the urban edge. The ultimate goal is to replace them with formal housing *in situ* and to formalize the cadastre (or to move them to formal housing elsewhere if the site is unsuitable), but until such time, services such as running water, telecommunication and electricity are provided to them (Dyantyi 2007). The dwelling demarcation of the informal settlements is dynamic and after, for example, a fire, dwellings can be rearranged completely. Formal address allocation does not exist in the informal settlements and even descriptive directions to a dwelling or location might change over time due to the dynamic nature of the settlements.

The legacy of the apartheid system has resulted is some addressing problems in the country, such as a wide variety of allocating addresses, and unacceptable names for places and streets. The South African government has embarked on a process to redress, correct and transform the geographical naming system. For this purpose, the South African Geographical Names (SAGN) Council has been established and it advises the Minister responsible for arts and culture on the transformation and standardization of geographical names (South African Geographical Names Council Act, 1998). As a result, many town and street names are changed, resulting in addresses also changing. A name can change several times, and can even be changed back to its original name, as was the case with the town, Louis Trichardt, which became Makhado, but was then changed back to Louis Trichardt after a ruling by the Supreme Court of Appeal (SCA 2007). Because it takes time for people to start using the new addresses (including deliberate resistance to using new names), and also because it takes time to modify all addresses that are currently held on record, any addressing system in South Africa has to cater for the possibility of more than one address per location or service delivery point.

In the apartheid era black townships were built outside the cities and people lived there but traveled to work in the cities every day, street names were not assigned. Often, such people used the address of their employer for postal services, etc. The property development process in the townships was administered by a different law than property development in white areas, and resulted in different address allocation schemes. In most townships, street names were not assigned and the address consists of a number and locality (name of the township, suburb or section) only. Municipalities are now starting to assign street names in these areas, but it is a political process that involves the local community and therefore it is slow.

Finally, in tribal areas communal land consisting of a single, relatively large, land parcel is owned by a chief on behalf of the tribe, and the chief allocates land to the members of the tribe. In many instances, there is no formal record of who stays where, at least not at a centralized, publicly-available deeds registry. As another example, farm workers and dwellers live on the farms where they work and their "land parcels" are assigned to them by the owner of the farm. In most

cases, addresses have not yet been allocated in any of these areas (see Figure 2). The Department of Land Affairs, which is responsible for the cadastre and deeds register, has embarked on a national land reform programme to address tenure security, restitution of land to people dispossessed by racially discriminatory laws or practices, and land redistribution to the poor (Adams, Sibanda and Turner, 1999).

FIGURE 2: Loosely scattered village without addresses

ADDRESS TYPES IN THE SOUTH AFRICAN ADDRESS STANDARD

The South African address standard is being developed in three parts:

1. SANS 1883-1, *Geographic Information – Address Standard, Part 1: Data format of addresses*
2. SANS 1883-2, *Geographic Information – Address Standard, Part 2: Guidelines for addresses in databases, data transfer, exchange and interoperability*
3. SANS 1883-3, *Geographic Information – Address Standard, Part 3: Guidelines for address allocation and updates*

The first part defines an address and the different address types that are in use in South Africa; the second part provides a data model to store these address types; and the third part gives guidelines for the allocation of addresses. In this section we focus on the first part of the standard.

SANS 1883-1 defines an address as *unambiguously specifying a point of service delivery*, i.e. the *actual location where a service is or could be provided*. The definition of an address usually refers to an object, feature or location and it is significant that SANS 1883-1 includes a service delivery point. This definition highlights the importance of recognizing that an address is for all forms of service delivery, and not just for postal delivery. This is particularly important in a country where many people do not yet have access to basic services such as running water, electricity, sewerage and waste removal, and an address is critical for the utilities and authorities rolling out the delivery of services to them.

TABLE 3. SANS 1883 ADDRESS TYPES

TRADITIONAL FORMALIZED ADDRESS TYPES	
Street Address	Dr Lategan Road, Groenkloof 1736 Pretorius Street, Arcadia, 0083
Intersection Address	Corner of Kings and Richmond Roads, Mowbray Corners Festival and Schoeman Streets, Hatfield
Site Address	25436 Soshanguve CC Portion 938 Mooikloof
COMPOSITE ADDRESS TYPES	
Landmark Address	Parliament, Cape Town Voortrekker Monument, Pretoria
Building Address	Election House, 260 Walker Street, Sunnyside 2nd Floor, Celtis Plaza, Schoeman Street, Hatfield
SA POST OFFICE ADDRESS TYPES	
SAPO-type Rural Village Address	012151 Ngxingxolo, Mooiplaas, 5228 110101 Corana, Umtata, 5100
SAPO Box Address	PO Box 2947, Hatfield, 0028, ZA Private Bag X2438, Glenstantia, 0010
SAPO Street Address	477 Chopin Street, Glenstantia, 0181 74 Observatory Road, Woodhill, 0081
SAPO Poste Restante Address	Poste Restante, Hazyview, 3928 Poste Restante, Winterveld, 0198
DESCRIPTIVE ADDRESS TYPES	
Farm Address	Blommeplaas, Koue Bokkeveld Tabakskuur, My Plaas, Kimberley Road, Bloemfontein
Informal Address	Opposite the butcher shop, Tsamaya Street, Mamelodi 1st house on right after Vodacom booth, Olievenhoutbosch

Roughly, the SANS 1883-1 address types can be classified into four kinds of addresses:
1. Traditional formalized
    • Street Address
    • Intersection Address
    • Site Address
2. Composite
    • Landmark Address

- Building Address
3. SA Post Office
    - SAPO-type Rural Village Address
    - SAPO Box Address
    - SAPO Street Address
    - SAPO *Poste Restante* Address
4. Descriptive
    - Farm Address
    - Informal Address

The examples provided in Table 3 illustrate the different types of addresses,

BENEFITS OF ADDRESSES TO ECONOMY, SOCIETY AND GOVERNANCE
The economic benefits of addresses are well documented, some of which are described in the other presentations of this URISA session (Barr, 2007, Lind, 2007, Nicholson, 2007). Examples include:

- Maintaining customer databases: addresses are key parts of such databases, allowing companies to send invoices, ordered goods and promotional material to their customers, and if necessary, direct debt collectors. These addresses are obtained in different ways (eg: paper forms or entered online) and there are often errors and ambiguities in them. Such address databases are the data sources for the other uses of addresses to benefit the economy, particularly when they have been geocoded.
- Retail outlet planning: spatial analysis of geocoded addresses of customers can show where they shop (obtained from their use of credit cards, etc) relative to where they live. This can reveal gaps in the retail outlet network, outlet inventories that do not match the buying habits of the catchment for the outlet (eg: because the people living there shop elsewhere), growth opportunities, etc.
- Routing delivery vehicles: knowing exactly where deliveries need to be made allows for better load management of delivery vehicles (combining part loads) and better routing of them, saving costs and making the delivery schedule more predictable (hence providing a better service).
- National address database (NAD): the existence of a NAD supports economic development because analyses such as outlet and route planning can be done.
- A functional addressing system can also generate downstream economic activities, such as producing and maintaining street maps and guides that are up to date, and facilitating and encouraging local tourism, so that the destinations can actually be found in a maze of streets (CODI-Geo/DISD 2005).

Lind (2007) performs a cost-benefit analysis on the presence of ambiguous street names in an area, and their impact on service delivery, illustrating the economic benefit in hard currency of having an unambiguous addressing system.

There are certain social benefits to having an address. Black citizens of South Africa used to be "second class" citizens in the apartheid era. A black representative at one of the SANS 1883 meetings related his childhood story: he grew up in a rural area where they lived in a house without an address. His cousin lived in the city in a house with a proper address. He always had the notion that his cousin had a better life – just because he lived in a house with an address!

South Africa's Financial Intelligence Center Act (2001) requires a customer to provide proof of residential address before opening an account with a financial institution or before applying for credit. Thus, people living in rural areas cannot apply for the much needed credit to uplift them economically, unless they have an address.

Similarly, to obtain documentation such as an identity document, driver's license or passport, one needs an address. The identity document is critical for being able to obtain permanent employment, and for accessing government services. There is the famous and tragic example of Kabelo Thibedi, who held hostage an employee of the Department of Home Affairs in Johannesburg on 30 November 2005, because he had been waiting for two years for his identity document (Sukhraj *et al* 2005).

In some countries, informal settlements are considered to be transitory, and hence there is resistance from the government there to providing any services for informal settlements (including addresses), as that would seem to establish the settlements as being permanent.

Other social benefits of having standard, unambiguous addresses for individuals and organizations include:

- Directing emergency services to the correct location. This can be a significant problem in peri-urban and rural areas, as there is often not access to a farm or small holding from every road with which it borders.
- Planning the provision of utilities and connecting them. This example emphasizes that there can be several different points of service delivery for a site, and hence more than one address for a site.
- As part of the process of providing postal addresses for all the dwellings in a rural village, the South African Post Office sends a "welcoming pack" through the mail (to prove the address – see Figure 3 for an example) and encourages local retailers to send promotional material to those at these new addresses – while many of us might consider this to be junk mail, for those in these villages it shows that they are now part of the normal processes of modern society.
- Finally, of course, we all use addresses regularly to find our friends and family members when visiting them!

FIGURE 3: A newly-assigned rural address

The value of addresses to governance is illustrated in quite a few ways in South Africa. First of all, the Independent Electoral Commission (IEC) makes extensive use of addresses in preparing for any election in South Africa. For example, addresses are used to make sure that voting stations are within reach of the voters, and also to analyse voting patters after elections. Any trends that are picked up are used to rectify voting station boundaries for subsequent elections. For example, if quite a number of voters in close proximity used an adjacent voting station instead of the one they were allocated to, the voting station boundaries are adjusted accordingly.

Similarly, Statistics South Africa, which is responsible for the Census, uses address data to ensure that the Census reaches all citizens and prepares address maps to assist their agents in locating all citizens. During the Census, the address data is used to monitor the progress of the Census. Statistics South Africa conducts a range of household and business surveys and the address data are used in a similar fashion for all of these.

South Africa's Financial Intelligence Centre Act (FICA) was written to assist in the identification of the proceeds of unlawful activities and the combating of money laundering. For that reason, customers of financial services institutions must provide proof of their residential address before opening an account. This is only possible if address data are available – not just for the potential customer to complete the application, but also for the financial institution to verify the data. South Africa has three levels of government: local, provincial and national. The exchange of service delivery data referenced to common addresses assists in coordinating the planning and maintenance of service delivery across the three

levels of government. Similarly, Nicholson (2007) reports that the National Land and Property Gazetteer (NLPG) in the UK is used to audit other national datasets, thereby supporting governance by ensuring better quality datasets.

PERCEIVED DISADVANTAGES OF ADDRESSES

There are also some perceived disadvantages to addresses. For example, rates and taxes are payable, summons and other legal notices can be delivered, one can be tracked down by the police, bills can be delivered and debt collectors can locate the address. Barr (2007) points out that in the UK only 60% of all buildings have a postal address and therefore spatial addresses assist in "discovering" dwellings or taxable properties. From an economic, society, and governance perspective however, these are all perceived disadvantages by individuals who do not necessarily support the good that comes from a sound economy, a prospering society or solid governance.

CONCLUSIONS

In this paper we sketched the current situation of addresses and address standards in South Africa and then illustrated the value of addresses to the economy, society and governance from a South African perspective. There is one aspect of address value that is uniquely highlighted in the South African context: the fact that an address gives social status to a citizen. During the apartheid era in South Africa, many were not given addresses which reinforced their lack of proper status as a citizen of the country. The benefits of addresses in a South African context are applicable to other countries as well. Therefore we conclude that it is important to a country's economy, society and governance to assign addresses, to have a properly defined address system and to have an address standard according to which addresses are assigned, maintained and exchanged.

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