

Challenges Facing the Creation of a Standard South African Address System

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Presentation Outline

- Introduction
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 - In Informal Areas
 - In Traditional Areas
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Introduction

- An efficient Address system is important in provision of services and collection of statistics
- Mandate of official statistical organizations
 - collection of statistics
 - running of censuses and surveys – (Statistics South Africa)
- Enumeration areas (EAs) are smallest areas currently used in the
 - collection of data,
 - analysis and dissemination

Introduction

- South Africa is divided into four settlement types –
 - urban (formal) areas: structured format of addressing
 - Informal areas: which are unplanned settlements
 - Traditional areas: have unstructured settlements
 - Farm areas: large areas

Background

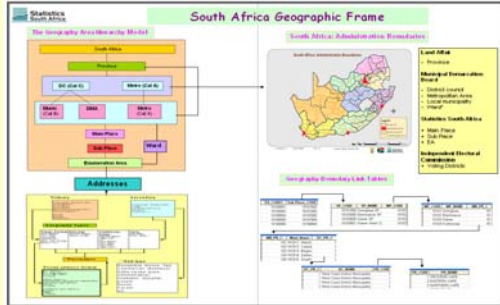
- South Africa inherited an inconsistent and incomplete system of addresses from the apartheid era in all types of settlement.
- Dwellings in urban formal areas
 - Established physical and postal addressing system,
 - forming the basis for postal services, emergency response, policing and the like.
- A physical address system is largely absent in rural and less-formal settlements.
- Current government: has not integrated and improve the existing systems.
- New systems mushroomed:
 - TELKOM (telephone company)
 - ESKOM (electricity company) -
 - created their own numbering systems for identification of households subscribing to their services.

Background

- New numbers did not seek to comply with the format of existing addresses.
 - This enhanced disparities of the addresses, consequently strengthening the difficulties in the usefulness of the identification system.
- Formal areas - new developments are yet to be updated on an address database.
- Need to create a standardized National Address system
 - To effectively improve delivering services and data collection among others.

Geographic Frame

- The South African Geographic Frame,
 - Shows the Hierarchical structure and how the addresses fit into the bigger picture.



Challenges Faced

- Having different key role players is a challenge,
 - coming to an agreement about different issues /standardizing
 - meeting the requirements for each of their mandates.
- Nature of settlement types found throughout the country
 - urban,
 - informal,
 - traditional and
 - farms
 - All these follow different patterns
- Even within the same settlement type, complex inconsistencies exist

Challenges in Urban Areas

- Some of the problems
 - where streets exist but do not have names,
 - cadastral may be reflected differently on the survey plans
 - missing or wrong addresses and
 - addresses associated with the wrong parcel of land (cadastre)
- New housing developments registration.
 - Process required is slow, having to submit the cadastral plans from the Local Municipalities to the Surveyor General's Office.
 - We thus have fragmented and incomplete database
 - Compiled by each metropolitan and local council independently,
 - Thus lacks a common standard and makes integrating at a national level difficult
- Town house complexes
 - Units have their own numbering within the complex, which may be used for service provision, but the numbering is not necessarily official.
 - smaller units and townhouses are situated on a single plot with one cadastral number

Challenges in Urban Areas

- Open land, parks and vacant plots are not given addresses
- Unmerged plots which are multiple land parcels but considered as one property.
 - Cape Town – Single building on five or more plots

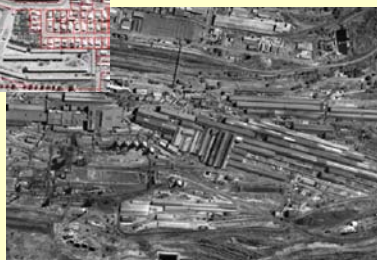
There are different settlement types in the urban areas which require a different approach in addressing.

- Sub-types of urban settlements include individual plots, security villages, high-rise flats, town houses, institutions, central business district, industrial premises and recreational areas

Challenges in Urban Areas



Hostel (Institution?)



Industrial Area

Challenges in Urban Areas

Townhouse Complex address structure

Property ID	Street Number	Street Name	Street Suffix	Name	Suburb/Zone	Edf Conting Type	Edf Usage Type	Number of Secondary Units
ARCADA-1245-34230	240	Church Street			Aranda	Residential	Residential	4

Secondary Address			
Property ID	Unit ID	Unit Type	Unit subtype
ARCADA-1245-34230	1	Residential	Townhouse
ARCADA-1245-34230	2	Residential	Townhouse
ARCADA-1245-34230	3	Residential	Townhouse
ARCADA-1245-34230	4	Residential	Townhouse
ARCADA-1245-34230	5	Residential	Townhouse
ARCADA-1245-34230	6	Residential	Townhouse



Challenges in Informal Areas

- These areas :
 - Not officially planned, surveyed or proclaimed, and are usually
 - Not found in detail or at all on conventional town cadastre maps
 - Have unofficial place names
 - No services are rendered
 - Illegally occupied.
 - Do not have official address systems
 - in most cases do not have streets
 - dwellings are haphazard.
 - Some areas may seem to have an orderly network of streets and sequentially numbered dwellings along the streets, but as this level of planning is unofficial, no records of the individual structures/stands exist in the Surveyor General's office.

Challenges in Informal Areas

- Service providers:
 - ESKOM,
 - TELKOM,
- Municipality
 - 1996 S.A. Census, assigned numbers for their specific reference purposes.



Challenges in Informal Areas

- Shortcomings of these assigned numbers are:
 - Numbers may not be sequential.
 - Numbers are not captured in a single database or not on a digital database at all.
 - Numbers are not fully visible.
 - One structure carries a multitude of numbers assigned by individual service providers for example. TELKOM, ESKOM and 1996 Census.
 - Numbering is only updated or maintained as a service provider identifier.
 - The occupants are using any or none of the various numbers as reference.
- Some of these structures are not permanent.
 - Since the land is not surveyed a physical address can not be attached to a cadastre

Challenges in Informal Areas

Property ID	Street Number	Street Name	Street Suffix	House	Suburb/Zone	Edf Zoning Type	Edf Usage Type	Number of Secondary Units
MAMELOE1248-34000	44	Dunsmuir	Road		Mantle	State	Residential	100

Property ID	Unit ID	Unit Type	Unit Subtype
MAMELOE1248-34000	1	Commercial	Business
MAMELOE1248-34000	2	Residential	House
MAMELOE1248-34000	3	Residential	House
MAMELOE1248-34000	88	Residential	House
MAMELOE1248-34000	89	Residential	House
MAMELOE1248-34000	97	Residential	House
MAMELOE1248-34000	98	Residential	House
MAMELOE1248-34000	99	Residential	House
MAMELOE1248-34000	100	Residential	House

Challenges in Traditional Areas

- Traditional areas:
 - show various designs, from the well-structured layout to the undulating and unstructured layouts of villages.
 - Majority of villages do not have official numerical addresses
 - Absence of precise delimited cadastre.
 - Topographic maps used in previous surveys (Pre-survey)
 - These data is mostly outdated
 - the picture on the ground has changed over time and thus not an accurate representation
 - Due to scale 1:50 000 generalization is applied thus loss of detail
 - Recent aerial photographs needed
 - Place names are misplaced and misspelled

Challenges in Traditional Areas

- ESKOM, TELKOM, 1996 Census process assigned numbers as identifiers.
- shortcomings of these numbers are:
 - May not be sequential.
 - Not exhaustive
 - assigned to housing units that applied for services,
 - therefore not covering the entire village
 - Not fully visible.
 - Multiple sets of Numbers.
 - 1996 pop census: field-workers assigned numbers on rural dwellings to ensure that all households were counted.
 - Many dwellings already had a series of different numbers painted by service providers Eskom, Telkom and local authorities at various times.
 - Numbering is only updated or maintained as a service provider identifier.
 - The occupants are using any or none of the various numbers as reference.

Challenges in Traditional Areas



Challenges in Traditional Areas

Primary Address								
Property ID	Street Number	Street Name	Street Suffix	Street Name	Village/Ward	EEF Zoning Type	EEF Usage Type	Number of Secondary Units
AMANDLA_0009-00014					Alushi	Residential	Residential	349

Secondary Address				
Property ID	Unit ID	Unit Type	Unit Subtype	
AMANDLA_0009-00014	1	Residential	House	
AMANDLA_0009-00014	2	Residential	House	
AMANDLA_0009-00014	3	Residential	House	
AMANDLA_0009-00014	24	Commercial	Shop	
AMANDLA_0009-00014	30	State	Office	
AMANDLA_0009-00014	44	Residential	House	
AMANDLA_0009-00014	30	Residential	House	
AMANDLA_0009-00014	40	Residential	House	

Challenges in Farm Areas

- Large areas in South Africa are commercial farms.
 - Surveyed with the necessary documentation and registration at the Surveyor General.
 - Have registration number, name and exact boundaries.
 - Additional information like ownership and subdivisions also exist.
- Land parcel numbers are used,
 - No chronological order.
- Cover large area
 - numbers not visibly displayed: difficult to identify one farm from the other
- Small villages exist within the larger farm, where several workers and their families live permanently,
 - this should be seen as a separate entity but currently is considered under the parent farm.

Challenges in Farm Areas



Challenges in Farm Areas

Primary Address									
Property ID	Street Number	Street Name	Street Suffix	Street Name	District Name	EEF Zoning Type	EEF Usage Type	Number of Secondary Units	
Randakwa-5670-0003R					Randakwa	Urban/Industrial	Farm	Farm	10

Secondary Address				
Property ID	Unit ID	Unit Type	Unit Subtype	
Randakwa-5670-0003R	1	Residential	House	
Randakwa-5670-0003R	3	Commercial	Sham	
Randakwa-5670-0003R	5	Commercial	Sham	
Randakwa-5670-0003R	7	Residential	Hostel	
Randakwa-5670-0003R	8	Residential	House	
Randakwa-5670-0003R	10	Residential	House	

Way Forward

- Stats S A is leading a team of intergovernmental role-players in an attempt to coordinate all address initiatives and related activities.
 - South African Post Office
 - Local Municipalities and Metropolitan councils
 - Departments of Land Affairs
 - Home Affairs
 - Housing
 - Water Affairs and Forestry
 - Social Development
 - Treasury
 - Public Service and Administration
 - Minerals and Energy
 - State Information Technology Agency (SITA)

Way Forward

- Comprehensive methods and procedures will be instituted in order to gather and compile an effective and efficient address database
- Decide on updating or redesigning of the existing database.
- Identify gaps: draw some intelligence on available coverage.
 - National Address Database (NAD),
 - Cadastre from the Surveyor General
 - Postal physical address system
- Postal system-
 - addresses should be capture as they filter into the system and verify their validity. The postal directory should also be used to update records
- Current updates from Metropolitan councils should be used

Way Forward

- Establish a continuous maintenance and update system of the compiled datasets
- Develop and maintain an address system that will be of use to the occupants of informal and traditional settlements
 - Investigate the possibility of capturing a location for each structure, alternatively the total or partial area with multiple structures.
 - Ideally capture accurate coordinates of each housing unit or area that it is built on, in the settlements.
 - Capture the popular place names of the settlement areas.
 - Accurately capture the information in a GIS.
 - Have the numbers visibly displayed to mark the individual units: be it a structure or area.
 - Establish and ensure continuous maintenance and update of the address system

Way Forward

- Some decisions taken on address format:
 - Urban formal: will follow the street number, street name and suburb format
 - Informal areas: consist of the dwelling number and locality name
 - Traditional areas: dwelling number and village name
 - Farm settlements: farm name and district name.

Conclusion

We hope to have a comprehensive National Address System in place when taking the next Population Census in the year 2011

Thank You

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