The Use of Spatial Statistical data for planning of municipality services.

Ms. Oteng Dhlamini

Manager: Geodatabase and Application

ISIbalo June 2016

Statistics
South Africa

Table of Content

- Background

- Use of spatial statistics data for municipality planning of services

- Conclusion

Background

- Census data play an important role as the only major source of socio-economic and demographic data utilised by spheres of government for policy formulation, planning of services, and monitoring of services

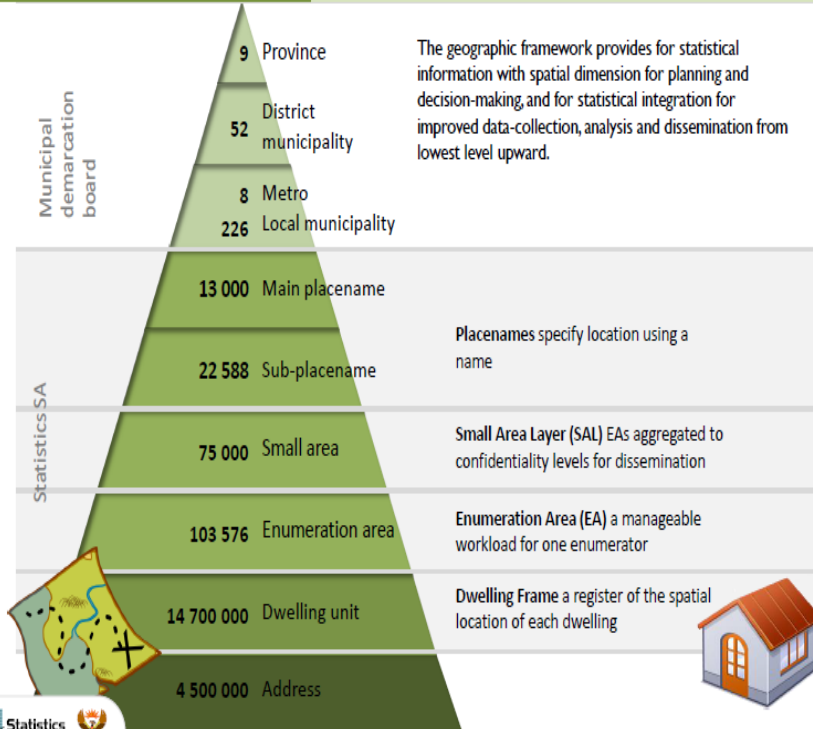- Geography Division provides spatial statistical data to the public and government departments.

Background …

- Spatial Statistical data provided by Geography is a primary source of information for effective planning and monitoring of socio economic and environmental trends.

- Municipalities exist to meet social objectives, human needs and national priorities, on addressing poverty and underdevelopment.

Spatial Statistical Data

Spatial Information framework — Geo-statistical infrastructure contextualising information-driven development
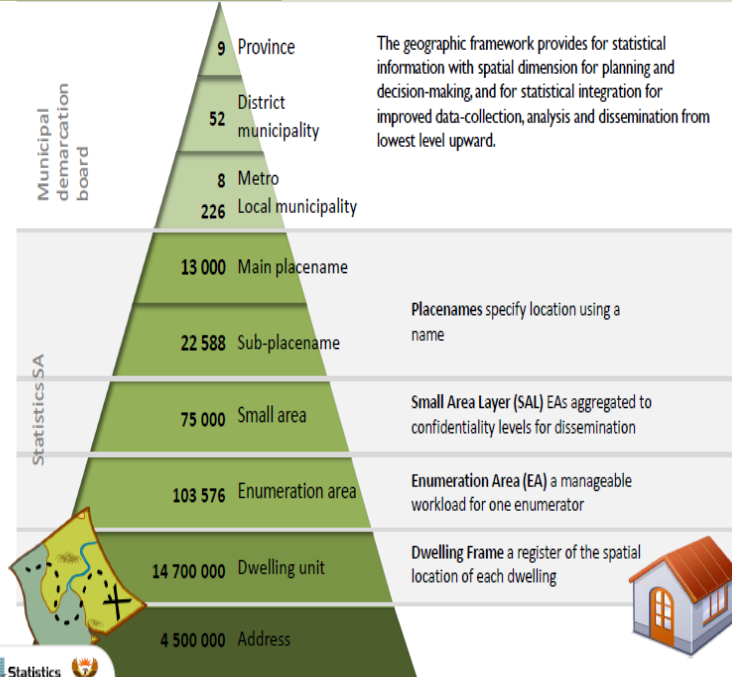
- **National level:** For policy formulation for various sectors society e.g. children, women etc.

- Projections - Population, workforce

- Urban planning

- Allocation of funds for schemes/grants etc.

Spatial Statistical Data

Spatial Information framework — Geo-statistical infrastructure contextualising information-driven development

The geographic framework provides for statistical information with spatial dimension for planning and decision-making, and for statistical integration for improved data-collection, analysis and dissemination from lowest level upward.

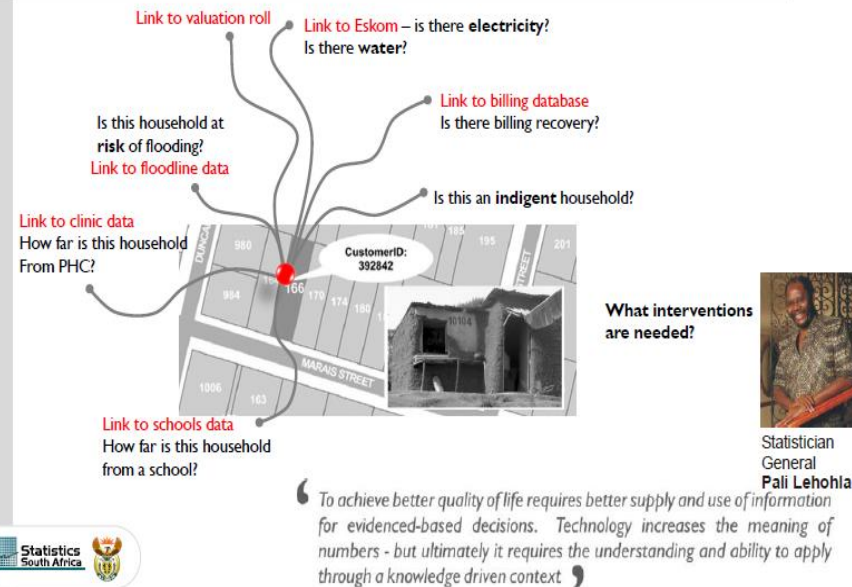|		
9	Province	
52	District municipality	
8	Metro	
226	Local municipality	
13 000	Main placename	
22 588	Sub-placename	Placenames specify location using a name
75 000	Small area	Small Area Layer (SAL) EAs aggregated to confidentiality levels for dissemination
103 576	Enumeration area	Enumeration Area (EA) a manageable workload for one enumerator
14 700 000	Dwelling unit	Dwelling Frame a register of the spatial location of each dwelling
4 500 000	Address	

Municipal demarcation board

Statistics SA

- Regional/Municipality level:
  - Identifying areas of specific intervention for fund
  - Planning intervention strategies

Spatial statistical data for planning municipal services

Spatial Service Delivery Information Framework – the next revolution
An framework for informed service delivery, planning and reporting to spatially enable government

Bulk infrastructure

- Electricity connection vs backlog
- Tracing illegal connections of electricity
- Water connection (Reservoirs) vs backlog
- Sanitation vs backlog
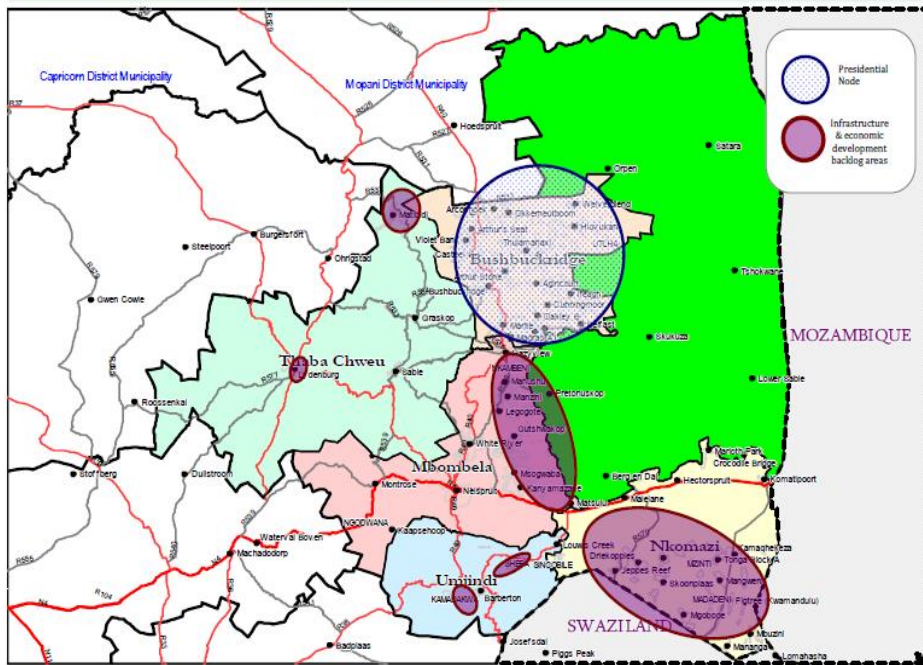- General Valuation roll compilation

Roads and Storm water location/which roads are due for upgrade, potholes. New roads development

- Design of streets- Traffic signs in District
- Pedestrian walks
- Gravel roads/ existing and new

Settlement pattern - dwelling types e.g. informal, old age etc.

Spatial statistical data for planning municipal services

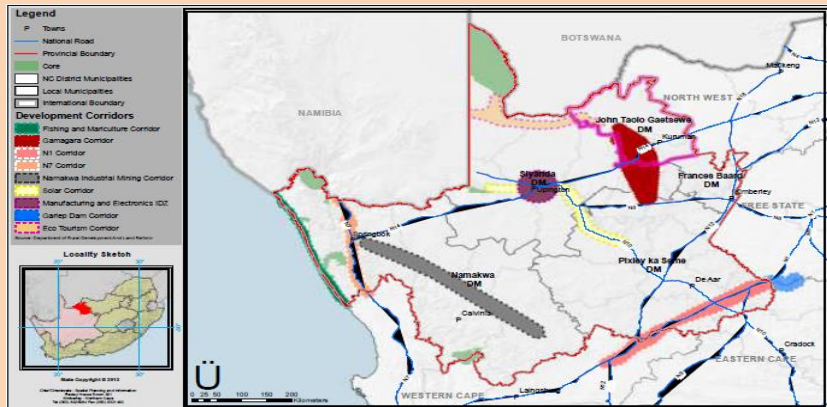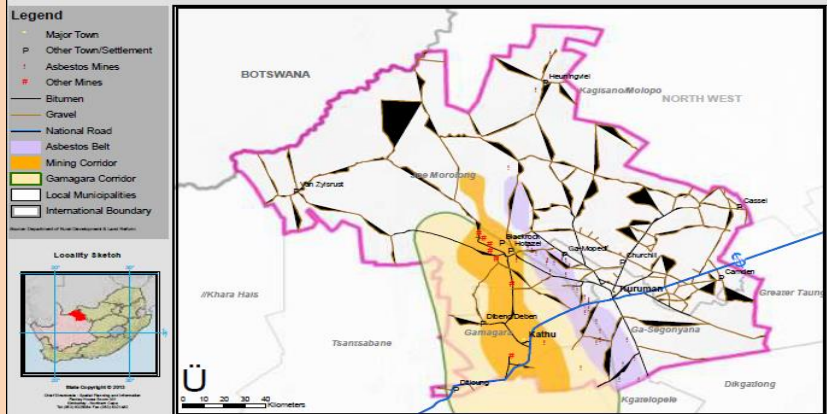Figure 7 Priority areas for delivery of basic services in Ehlanzeni district

- New road development / schools and clinics

- How many houses are electrified vs backlog

- Sanitation: how many houses have sanitation

- Locate transport corridors e.g. Moloto road or Maputo corridor against settlement patterns and economic activities (shopping malls, mines, industries etc.)
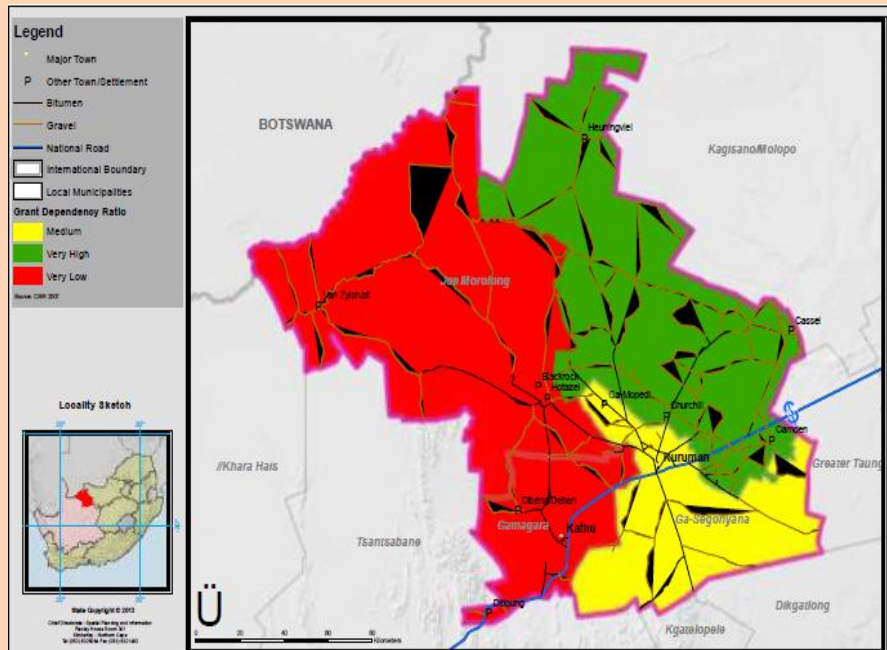
Spatial analysis on LED

Economic activities

- Mining activities in the DM,

- LED's location indicates economic development opportunities that are the key determinant in the settlement pattern of the province.

- Economic development, in turn, typically responds to the availability of *Environmental Capital* (e.g. water, suitable agricultural soil, mining resources, etc.) and *Infrastructural Capital* (e.g. roads, electricity, bulk engineering services, etc.).

- Over time, this has resulted in the evolution of distinct *development regions and corridors*
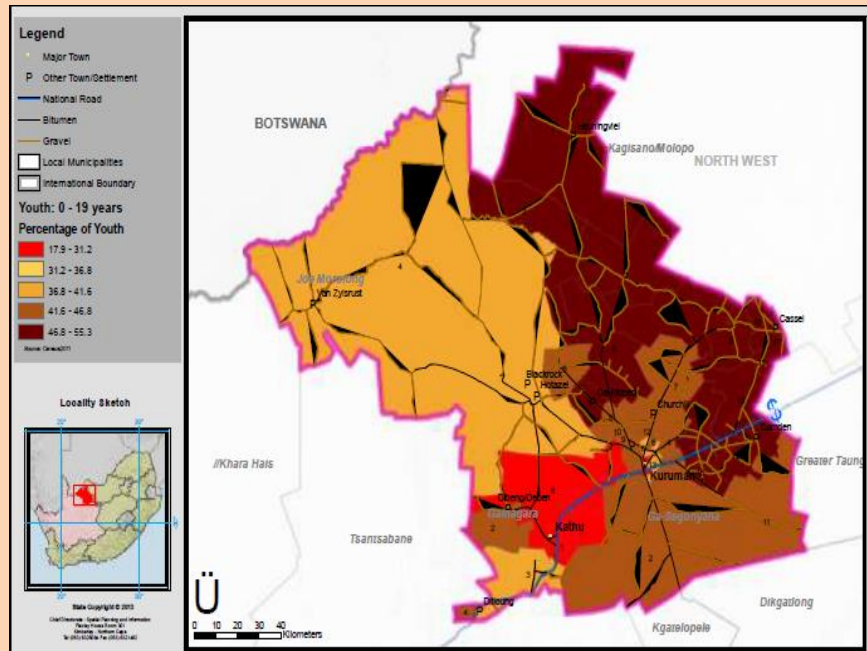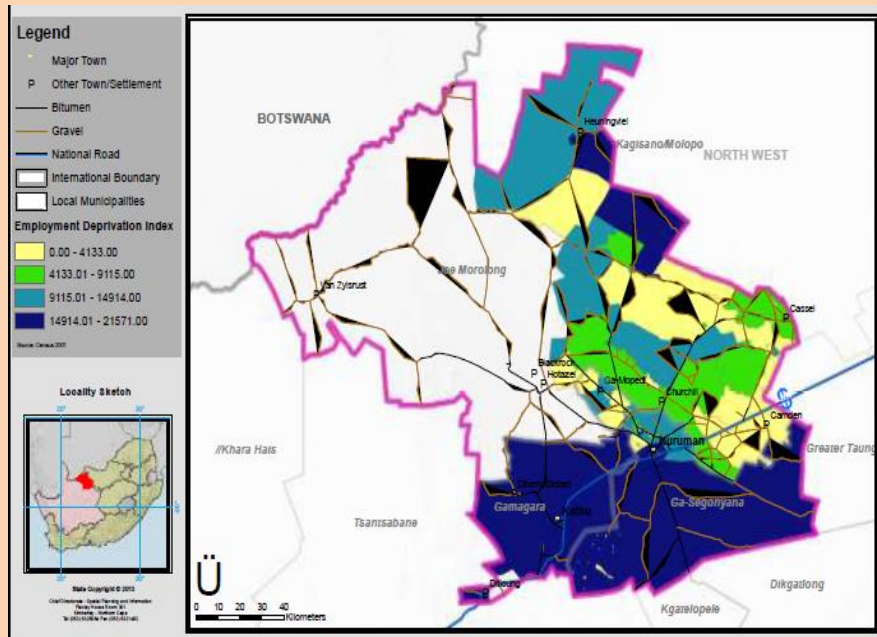
Grant dependency spatial analysis

- The education profile of the JTGDM reflects the high levels of poverty and deprivation in especially the Joe Morolong LM and the socio-economic differences amongst the three LM's in the district.

- Both in the case of the percentage of those that have no schooling in the JTGDM, and the percentage of those that completed Grade 12, the district's figures are worse than the national and the provincial figures, whereas the percentage of those that have no schooling in the district is 3.52%, compared to the provincial figure of 3.24%.

- In the case of those that completed Grade 12, the provincial figure of 0.64% is lower than the figure 0.87% for the District. As for higher education only 0.76% of the population has a qualification at tertiary level, with Joe Morolong at 0.4% (Census 2011)

Unemployment spatial analysis map

- Nearly one in every three persons between 15 and 65 years of age in the JTGDM (30.3%) are not economically active.

- This is the highest figure out of the five DMs in the NC Province, 4.2% higher than the NC Provincial figure of 26.28% and 6.56% higher than the national figure of 23.74% .Of those in the district that are not economically active, 52.5% are resident in the JoeMorolong LM.
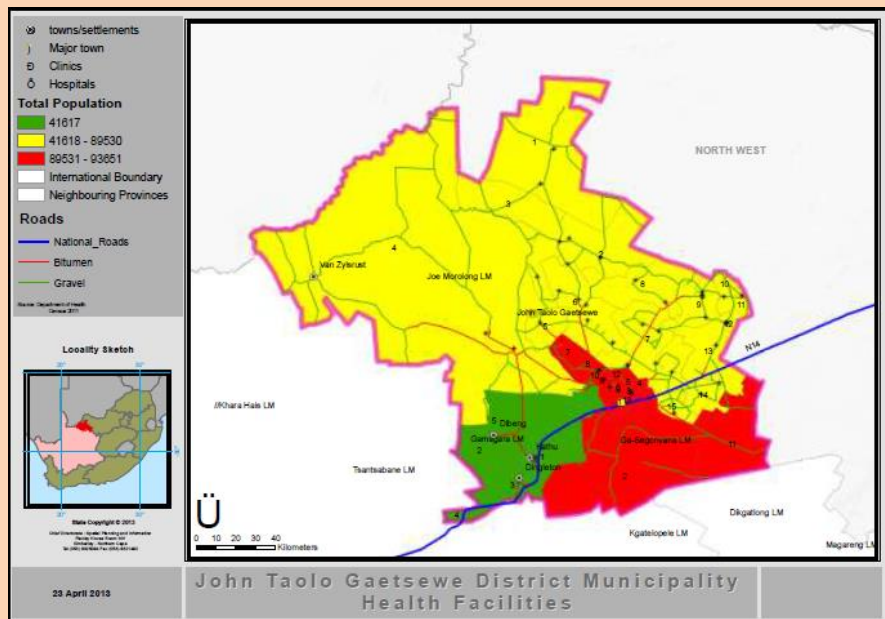
Employment profile spatial analysis

- **Income levels**

- A great number of economically population in John Taolo Gaetsewe District earn no income (16%), and 37% earn between R 9, 601 and R38, 200 per annum. The low income is indicative of high levels of poverty in the area and only a small percentage (26%) of the population earn between R153, 801 and R2, 457, 601 per annum.

Health facilities location map

- Regarding health services, there are 4 hospitals, 33 clinics and 3 mobile clinics in the JTGDM.

- There are 2 hospitals in Gamagara LM and Ga-Segonyana LM respectively, in terms of clinics Joe Morolong LM has got 20 while Gamagara and Ga-Segonyana LM have 6 and 7 clinics respectively.

- There are only 2 mobile clinics in Gamagara LM and only 1 in Ga-Segonyana local municipality.

- Map indicates the location of the mentioned health facilities.

Conclusion

In conclusion, spatial statistical data is an important base data for municipalities to use for spatial analysis on key spatial economic development initiatives.

Spatial Analysis and Modelling tools

- to measure the level of service for social facilities
- to quantify need for facilities
- to forecast future land use based on population
- to forecast population growth (in Support of GDS)
- GIS can be linked to other systems (Billing, valuation roll, LIS)
- Forecasting future housing needs of all segments of the population
- Directing funds for services for people in poverty
- Designing public safety strategies
- Development of rural areas
- Analysing local trends
- Estimating the number of people displaced by natural disasters
- Planning future government services
- Publishing economic and statistical reports about the people.

THANK YOU