The case for multidimensional approach to poverty measurement

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Outline

Human activities in space

Intersection of natural capital economy and society

• Human Settlements and geographical dimension of multidimensionality

• Education and socio-economic determinants of performance including spatial configuration

• Framing Poverty Measurement in South Africa
Human activities in space

**BIG DATA WORLD**

**DYNAMICS**
Horizontal relationships within layers

**THE PEOPLE**
needs/abilities

- Layer 9 (public)
- Layer 8 (religious)
- Layer 7 (cultural)
- Layer 6 (recreation)
- Layer 5 (services)
- Layer 4 (commerce)
- Layer 3 (manufacturing)
- Layer 2 (extracting industries)
- Layer 1 (agriculture)

**THE LAND**
needs/abilities

gEOGRAPHY = over space and place

data = template of evidence
Indicators for Sustainable Development

**ENVIRONMENT**
(Built and natural environments, un-used land, spatial re-structuring, etc.)

**ECONOMY**
(Growth, employment, industries, capital investments, etc.)

**Socio-demographic**
(Population densities, basic services – water, electricity demand, education, health, safety, recreational, Government services, poverty etc.)

Human settlements

- Requires measuring ‘bottom-up’ within the place/ neighbourhood/ community/ wards
- Requires strong institutions (local municipalities, districts, cities & provinces)

The South Africa I know, the home I understand
Geography as a dimension: Human Settlements policy
The 2011 settlement patterns illustrate that policy intentions and public action are at variance with densification on the margins.

Spatio-Cultural and Temporal Dimensions of Measurement
Education and socio-economic determinants of performance including spatial configuration

Bomfenbrenner (1979): defined four contributing groups to school performance

- Macro Level – Education Department, OBE, CAPS
- Meso Level – School funding, Teachers qualification,
- Micro Level – Individual Students, attendance, homework
- Exo Level – Socio- Economic Factors in the Community/ School feeder areas
  - Levels of Poverty
  - Level of Employment
  - Access to Basic Services
  - Household goods

A useful definition of Socio economic status (SES) is:

“Relative position of a family or individual on a hierarchal social structure based on their access to, or control over wealth, prestige and power”

Getis – Ord Hot Spot Analysis
Anselin Outlier Analysis
Regression Model

Pass = 58.92 + 0.13 Employment + 0.12 Telephone + 0.09 Computer

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### Spatio-Cultural and Temporal Dimensions of Measurement

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**Figure 1.1** Data Set A Histogram

**Figure 1.2** Data Set B Histogram
Texture

Spatio-Cultural and Temporal Dimensions of Measurement
Texture creates Simpson/aggregation Paradox

Spatio-Cultural and Temporal Dimensions of Measurement
Spatio-Cultural and Temporal Dimensions of Measurement

geographical weighting for policy relevance
Use of Statistics to frame Inequality in South Africa

Why Multidimensional Poverty Indices (MPI) approach is good for South Africa
Measuring poverty

Food poverty line: R321
Lower bound poverty line: R443
Upper bound poverty line: R620

8% poverty rate

Mapping the poverty headcount by municipality – 2001-2011 (SAMPI)
Poverty headcount by municipality – 2001-2011 (SAMPI)
Poverty headcount by municipality – 2001-2011 (SAMPI)
Poverty can be spatially represented and thereby allowing better targeting.
Poverty drivers in South Africa are multidimensional.

- **Economic activity**
  - Unemployment: 39.8 (2011) vs. 32.9 (2001)
  - Assets: 4.5 (2011) vs. 6.6 (2001)
  - Dwelling: 5.4 (2011) vs. 5.4 (2001)
  - Sanitation: 7.4 (2011) vs. 7.0 (2001)
  - Water: 6.5 (2011) vs. 6.3 (2001)
  - Cooking: 6.3 (2011) vs. 7.3 (2001)
  - Heating: 7.3 (2011) vs. 7.5 (2001)
  - Lighting: 5.2 (2011) vs. 5.9 (2001)

- **Living standard**
  - School attendance: 2.3 (2011) vs. 3.6 (2001)
  - Years of schooling: 13.7 (2011) vs. 16.3 (2001)
  - Child mortality: 1.5 (2011) vs. 1.3 (2001)

- **Unemployment** is now the major driver of poverty in the country.