

Development of Accounts

Gerhardt Bouwer

Regional Training Workshop on SEEA EEA
October 2019

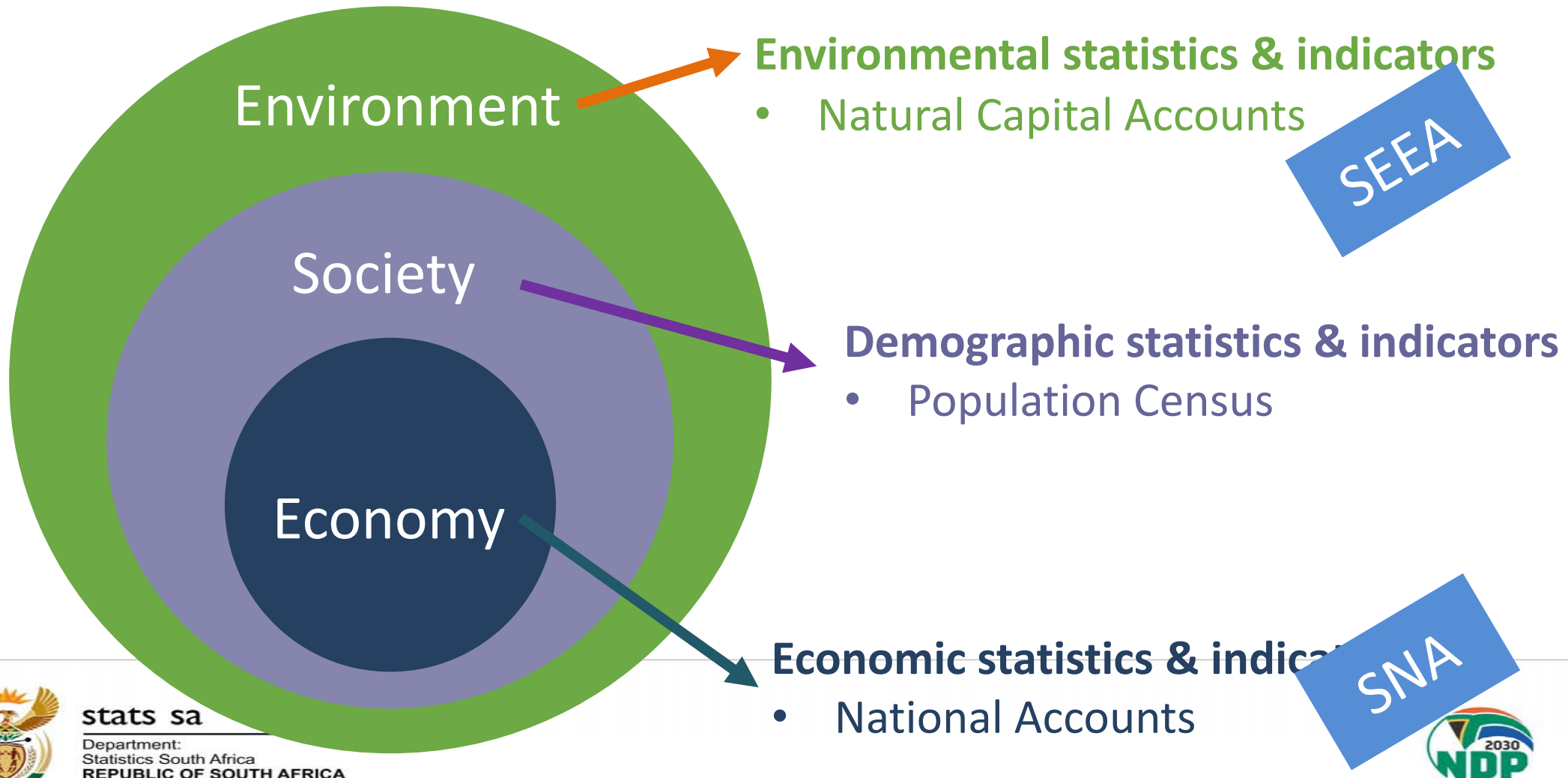


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Sustainable Development



The scope of SEEA is broad

- Water, minerals, energy, carbon, timber, fisheries, **ecosystems**, environmental expenditure...



System of
Environmental
Economic
Accounting

SEEA is a measurement framework

Using SEEA does not necessarily imply monetary valuation



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How does NCA link to the national policy context in South Africa?

- Calls for evidence-based policy making
- Need for national environmental indicators

3 specific examples:

- National Spatial Development Framework
- Land-use planning
- Natural resource management

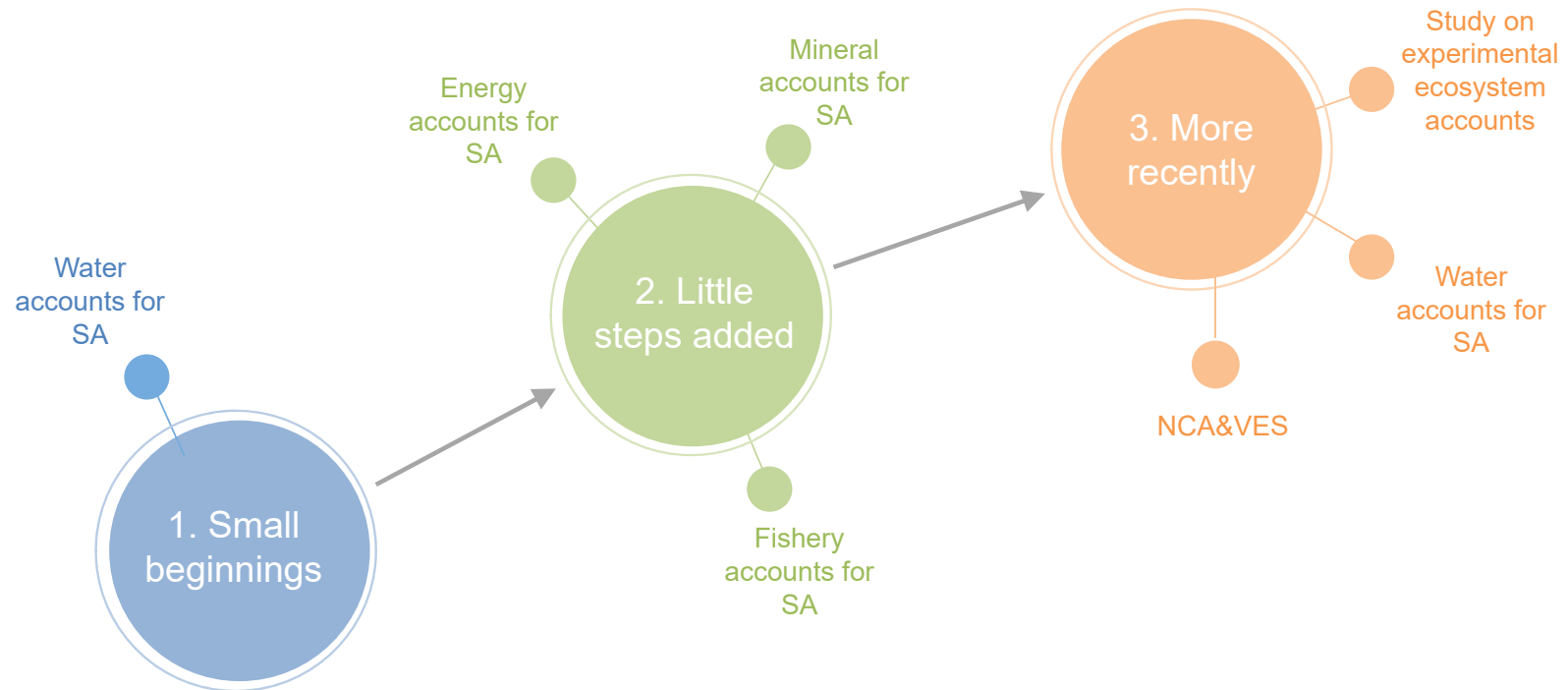


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Where we started



- All these started as discussion documents



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Initial ecosystem accounts as part of Advancing Natural Capital Accounting (ANCA), 2014-2015



Seven pilot countries:

Bhutan, Chile, Indonesia, Mauritius, Mexico, **South Africa**, Vietnam



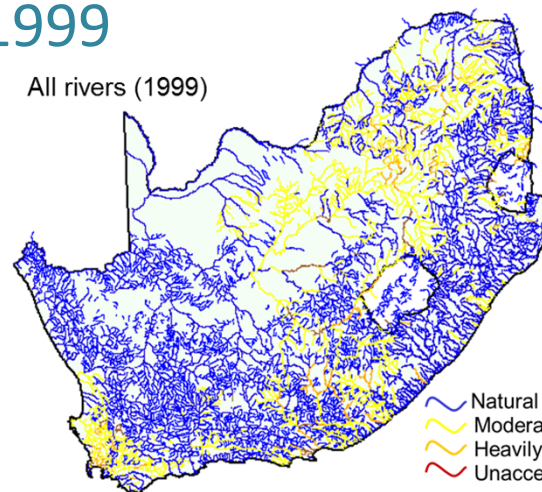
ANCA project: National River Ecosystem Accounts: Extent and condition of river ecosystem assets

Based on data from two
detailed national
assessments by
Department of Water
& Sanitation



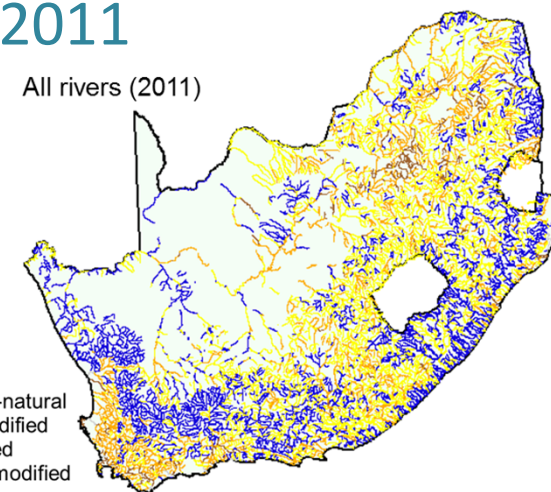
1999

All rivers (1999)



2011

All rivers (2011)



— Natural or near-natural
— Moderately modified
— Heavily modified
— Unacceptably modified

Ecological condition indicators

- Flow
- Water quality
- Instream habitat
- Riparian habitat

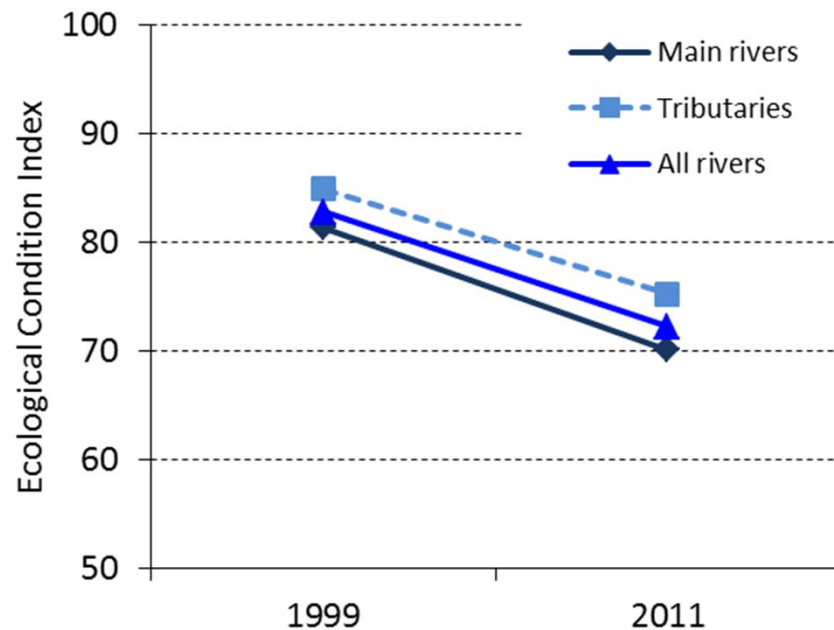
Aggregated
ecological
condition
category

**Ecological
Condition
Index**



Highest level summary of the Ecological Condition Account:

	Main rivers	Tributaries	All rivers
1999	81.3	84.9	82.8
2011	70.1	75.2	72.2
Change between 1999 and 2011	-11.2	-9.7	-10.6



Overall
10% decline in
ecological condition
of rivers
1999 - 2011

Information for
national policies,
such as
**National Water
& Sanitation
Master Plan**

Now building on this with Natural Capital Accounting & Valuation of Ecosystem Services (NCA&VES) project

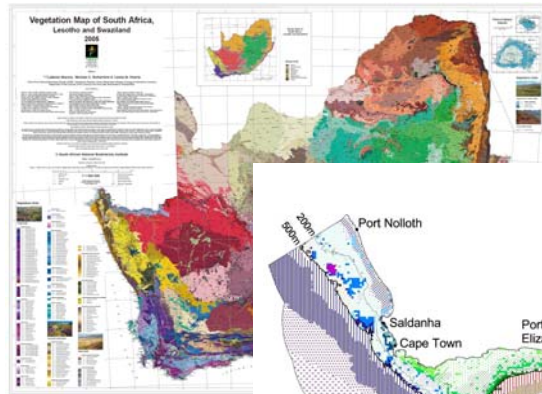


Five pilot countries: Brazil, China, India, Mexico, South Africa

Accounts to be produced in NCA&VES Project in South Africa

National

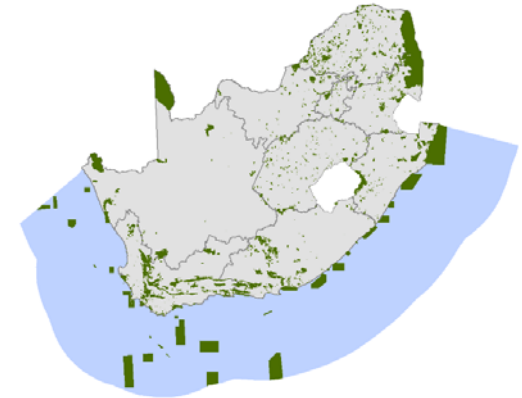
National ecosystem asset accounts – terrestrial & marine, extent & condition



Species accounts – rhino, cycads

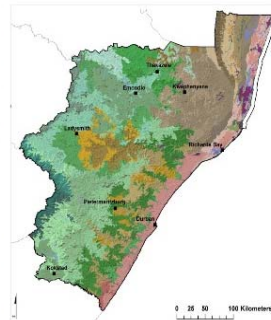


Protected area accounts – terrestrial & marine



Sub-national

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KZN: Full suite of ecosystem asset and ecosystem service accounts

City-regions: land and ecosystem accounts for selected metros



National NCA Stakeholder Workshop (19 March 2018)

- >70 people & 30 organisations
- Workshop report developed



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NCA Assessment Report

(to inform strategy for advancing NCA)

- Final **NCA Assessment Report** distributed to national stakeholders **January 2019** and available on Stats SA website
- Core elements include:
 - Policy priorities
 - Institutional setting
 - Key stakeholders
 - Information and knowledge, including data sources and availability
 - Technical capacity
 - Stock-take of current NCA work
 - Recommendations for strategy for advancing NCA in SA



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National NCA training workshop (21-23 May 2019)

27 participants
14 organisations – mainly government



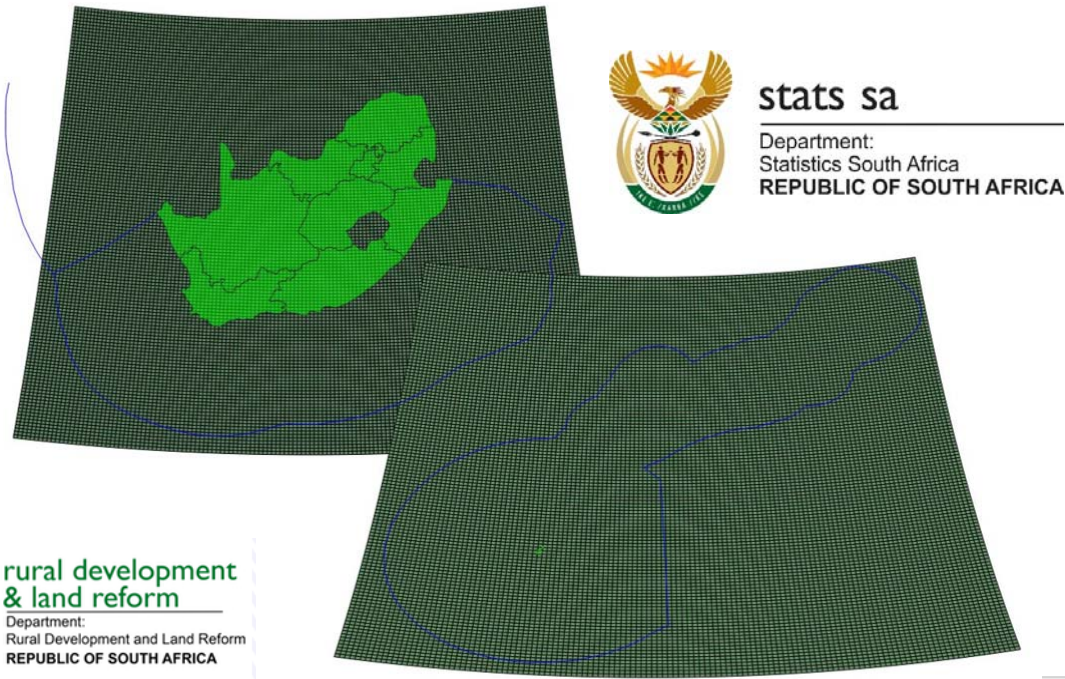
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Basic Spatial Unit for ecosystem accounting

and other spatial assessments

BSU 1 (728 million 1 ha cells):
South Africa + EEZ + Transboundary basins



BSU 2 (624 million 1 ha cells):
South Africa's Prince Edward Islands + EEZ

- Broad stakeholder consultation, including collaboration with NGI
- BSU is a unit for analysis – many datasets can be synthesised in a 100m grid (can be scaled up or down)
- Formal process for custodianship as a strategic national dataset underway
 - Committee on Spatial Information
- Administrative units (e.g. provinces, municipalities) assigned to BSUs



Natural Capital Accounting

NATIONAL NCA FORUM 2019

LEARN MORE



10-11 July 2019

Statistics South Africa Auditorium



Team SANBI-Stats SA moment!
Lots of mutual learning and capacity
building on event organisation

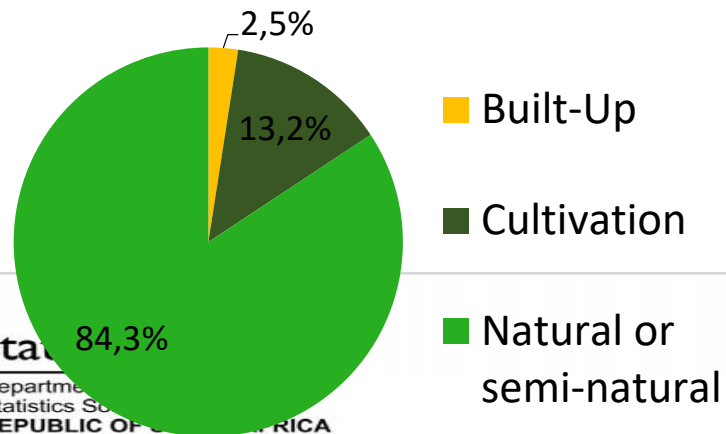
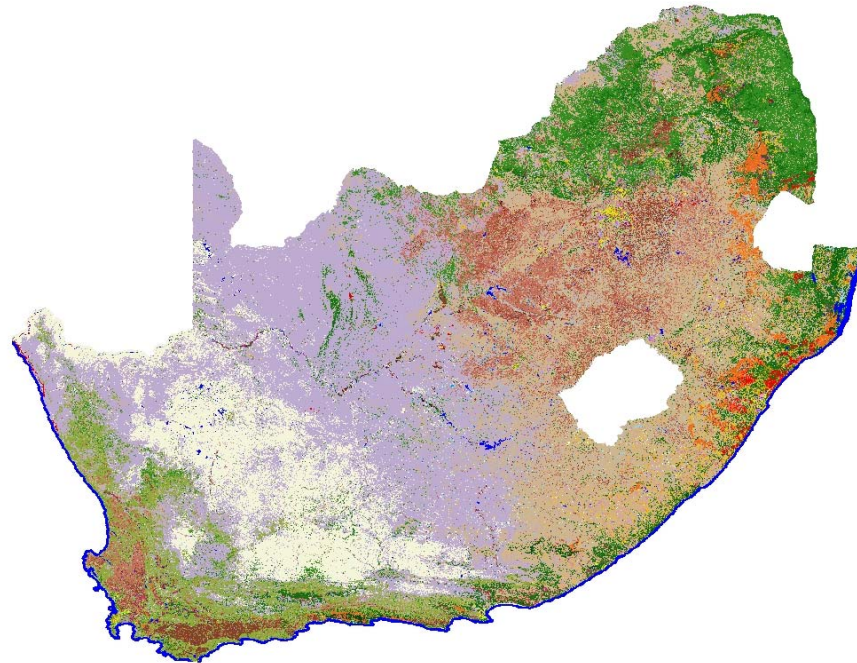


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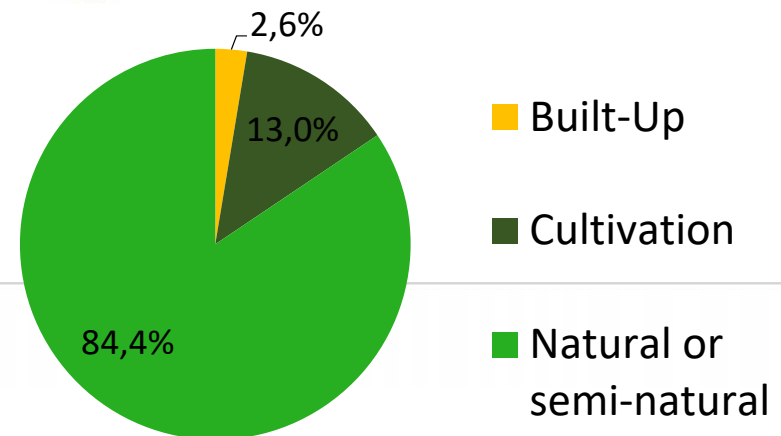
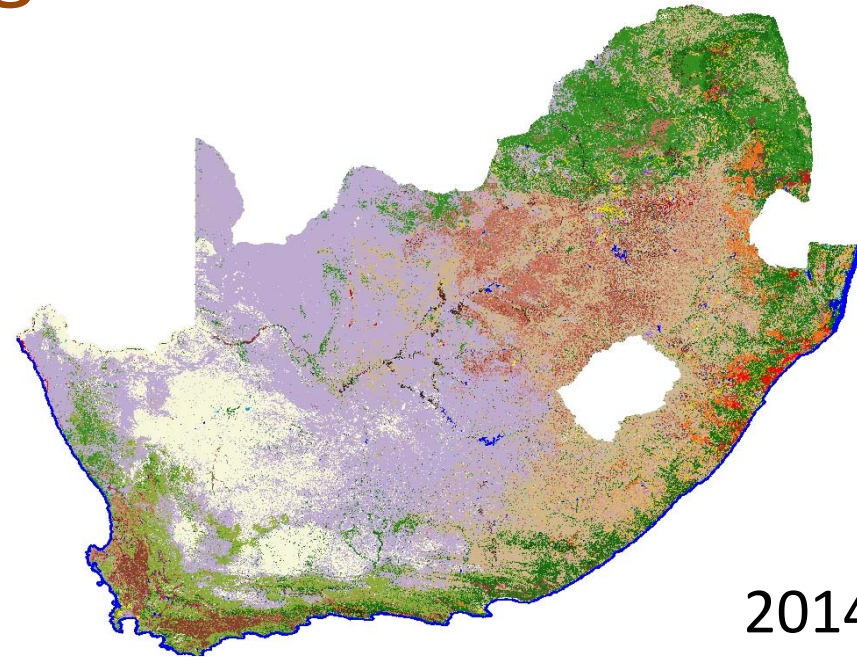
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Land cover change 1990 - 2014

1990



2014

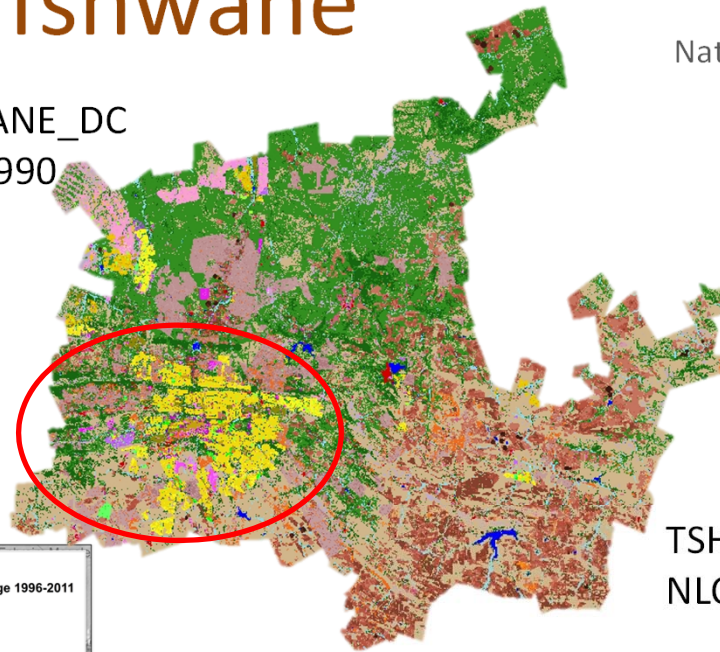


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Changes in City of Tshwane

TSHWANE_DC
NLC_1990



Natural or semi-natural

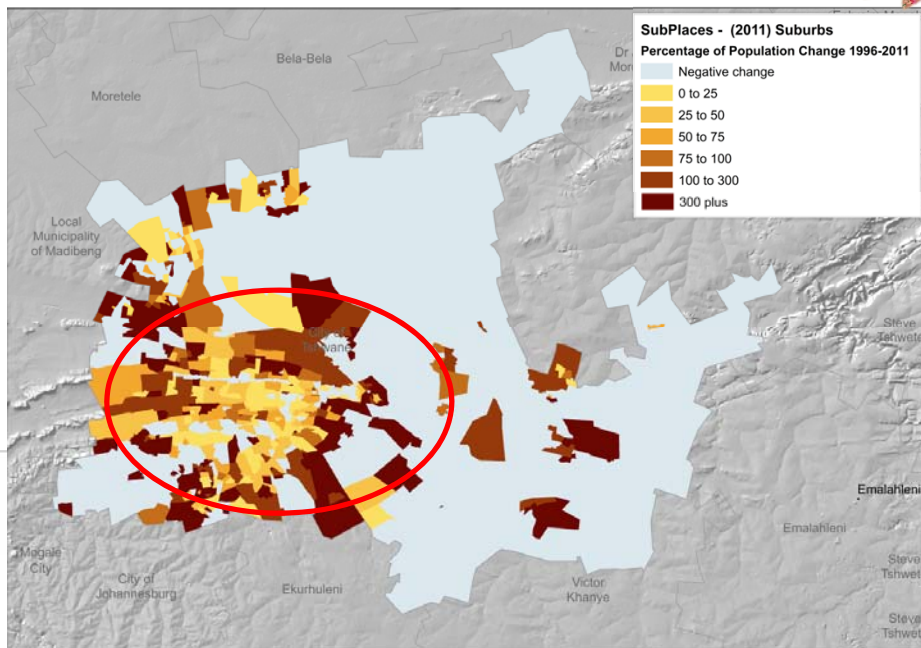
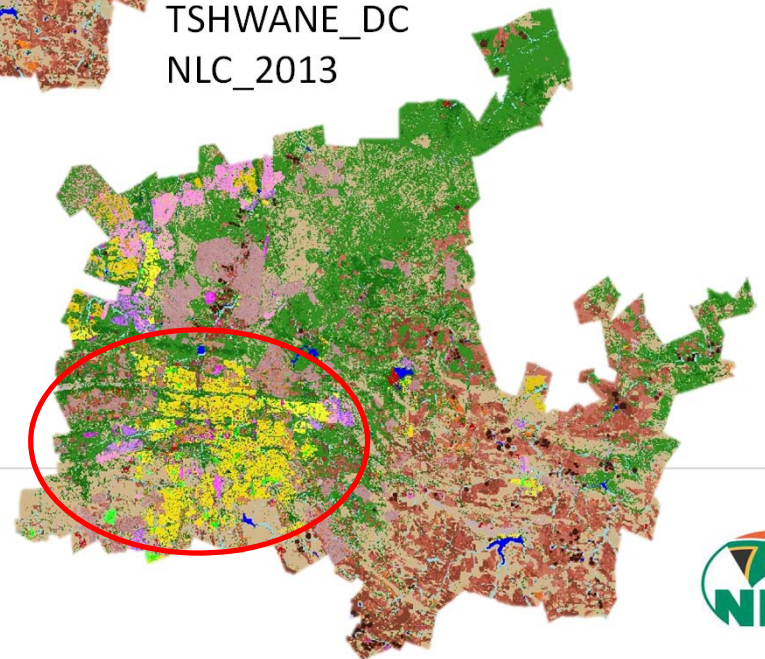
Cultivation

Built-Up

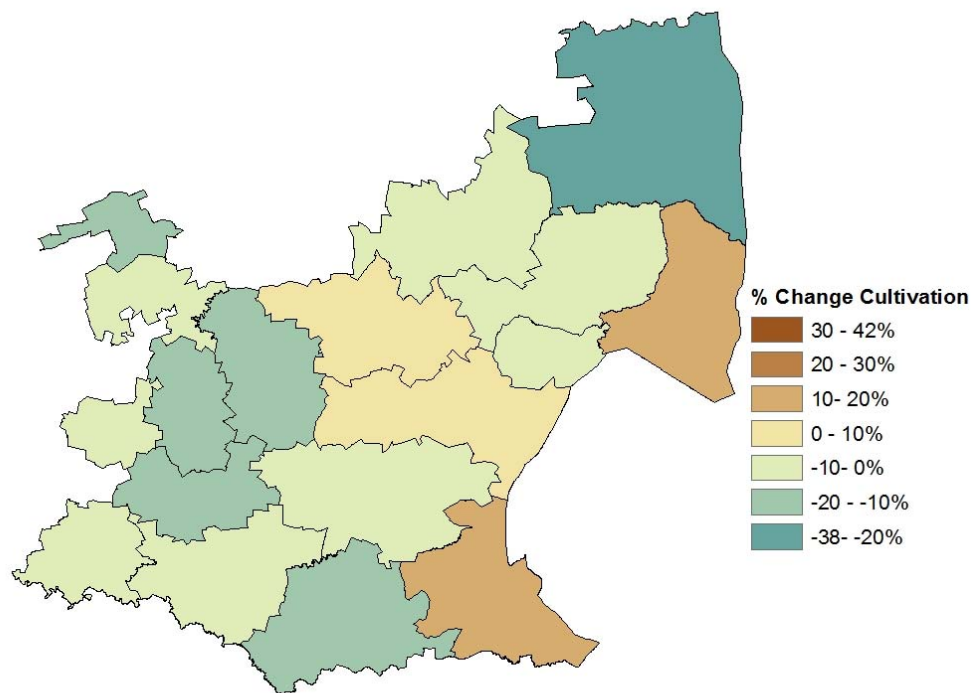
-50 0 50 100 150

Percentage Change (%)

TSHWANE_DC
NLC_2013

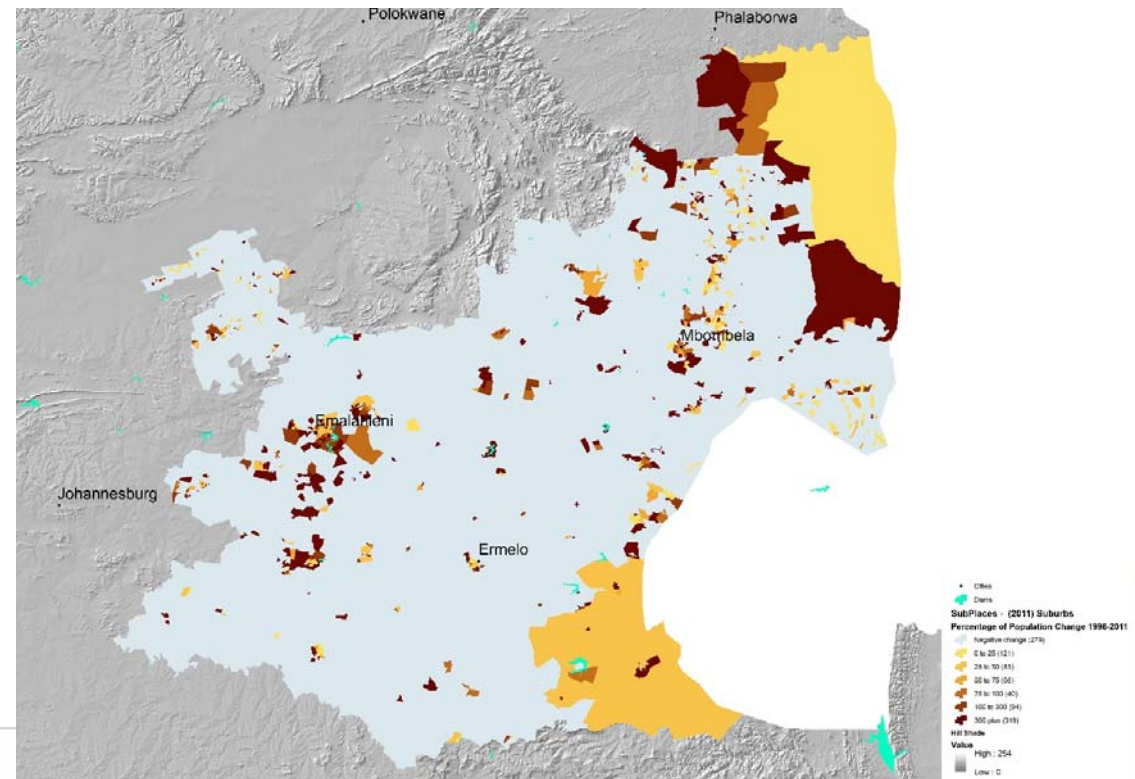


Mpumumalanga – changes in population compared with changes in cultivation



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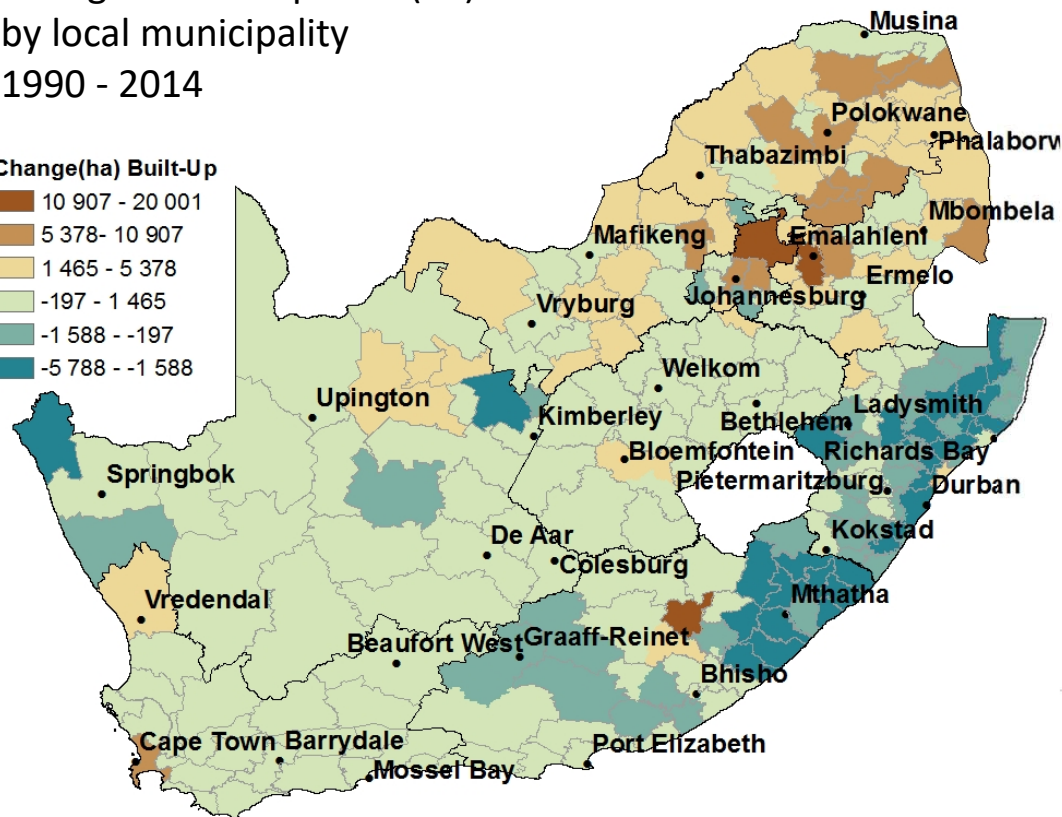
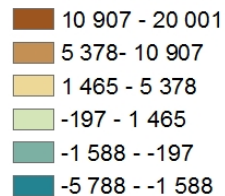
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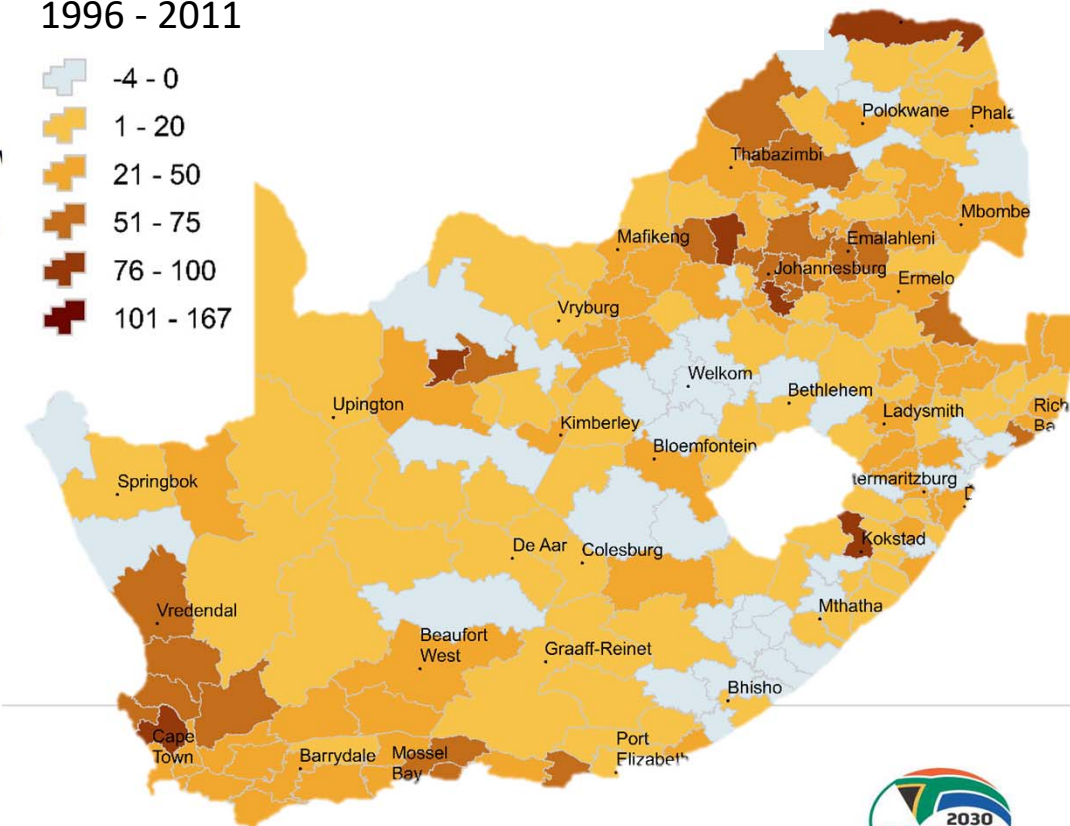
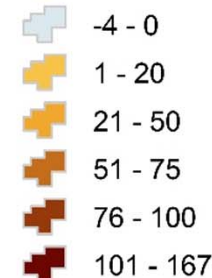
Where is population decreasing and how does that relate to changes in built-up land cover?

Change in built-up area (ha)
by local municipality
1990 - 2014

Change(ha) Built-Up

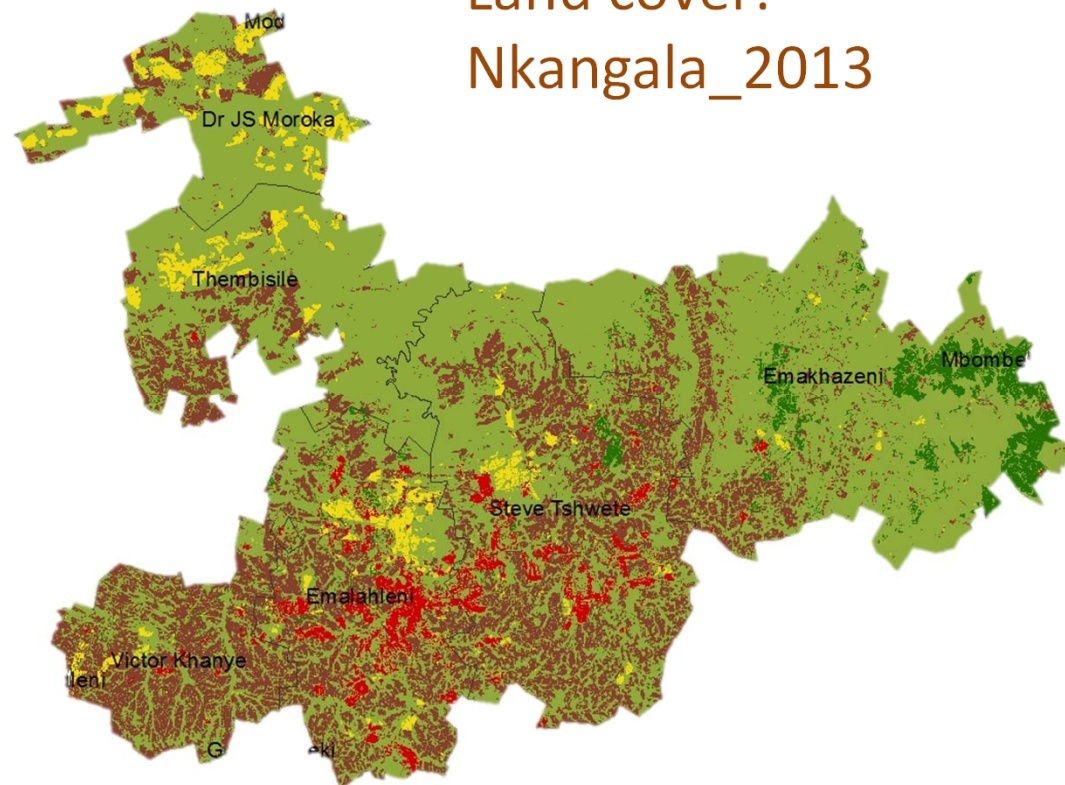


% change in population by local municipality
1996 - 2011

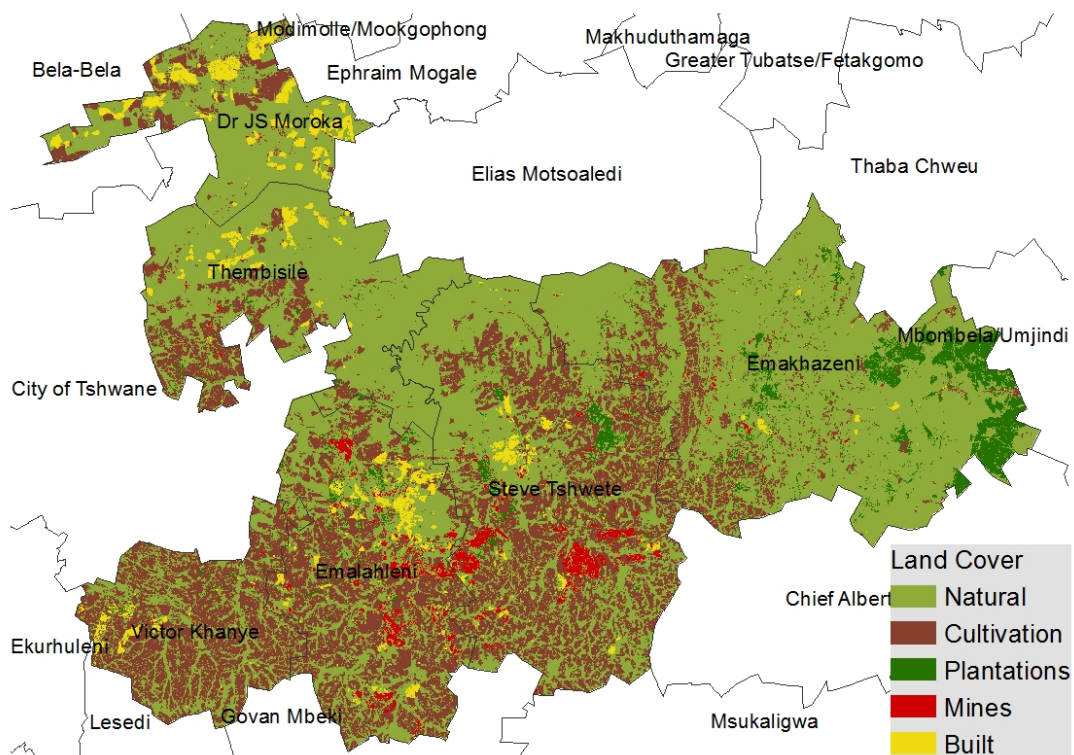


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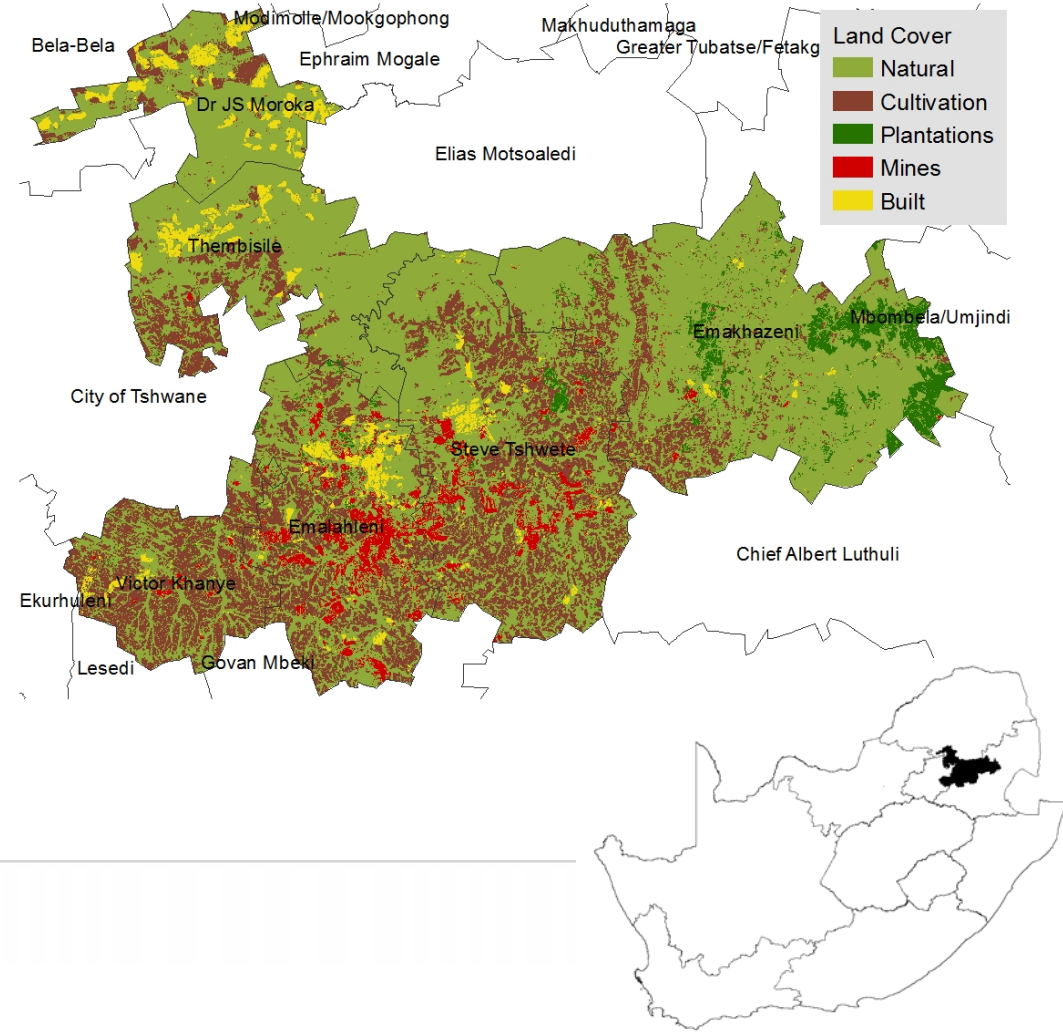
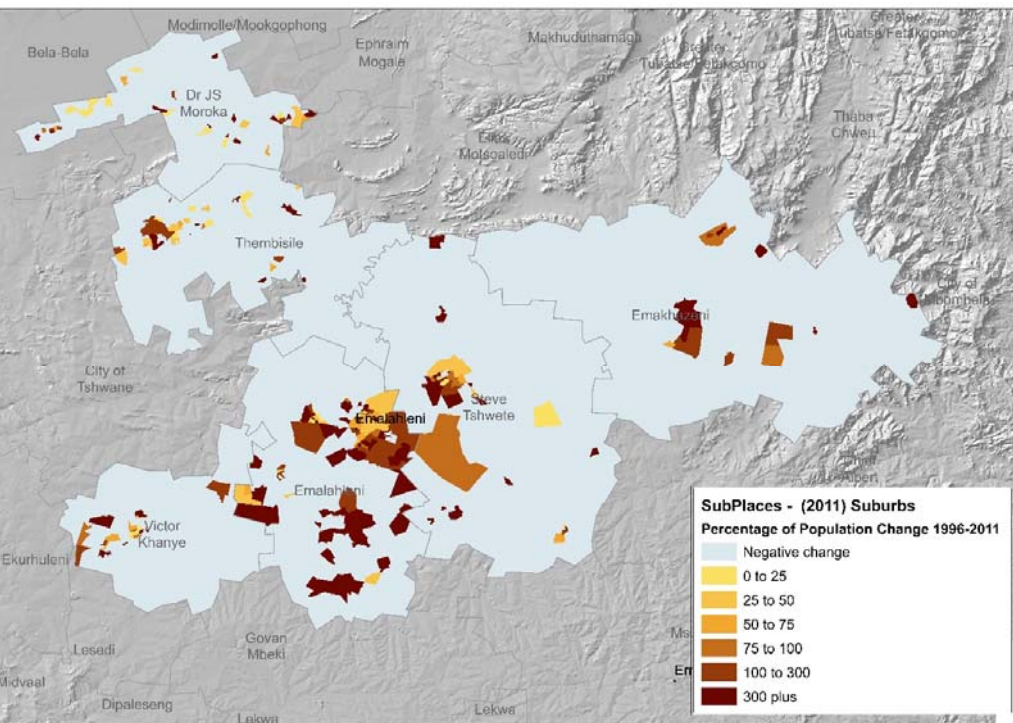
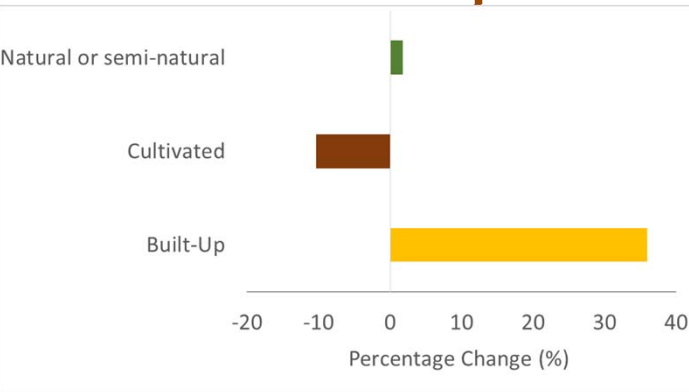
Land cover:
Nkangala_2013



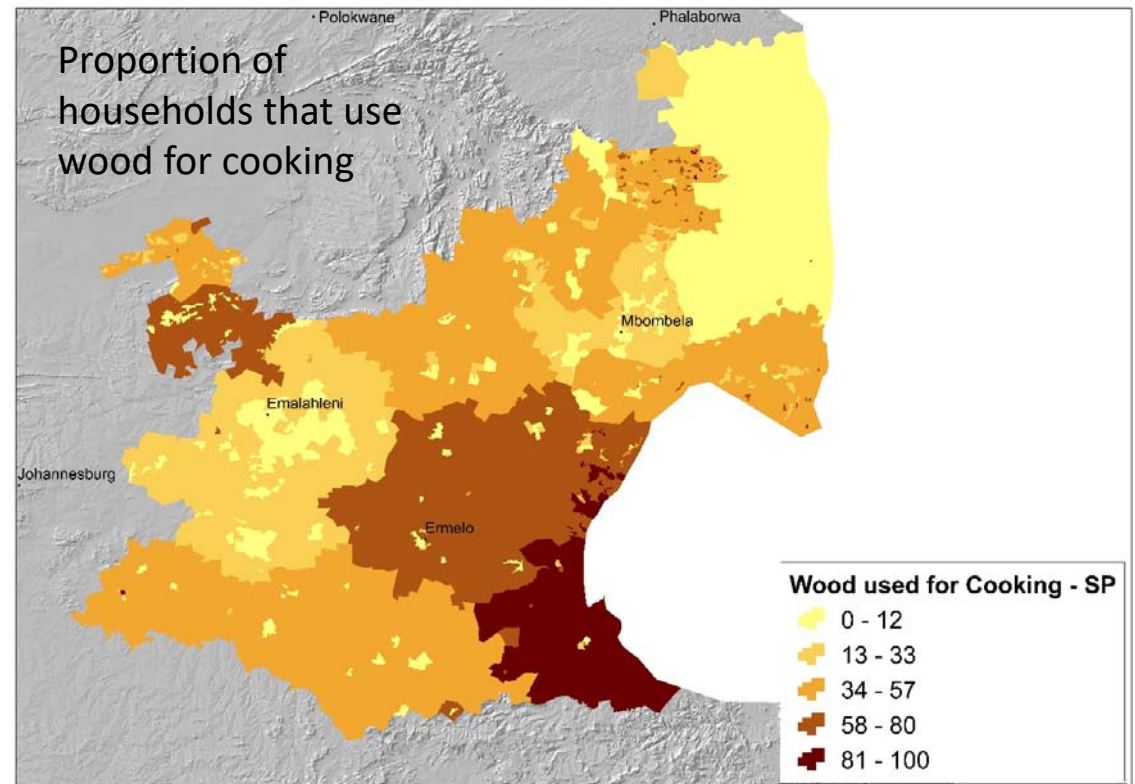
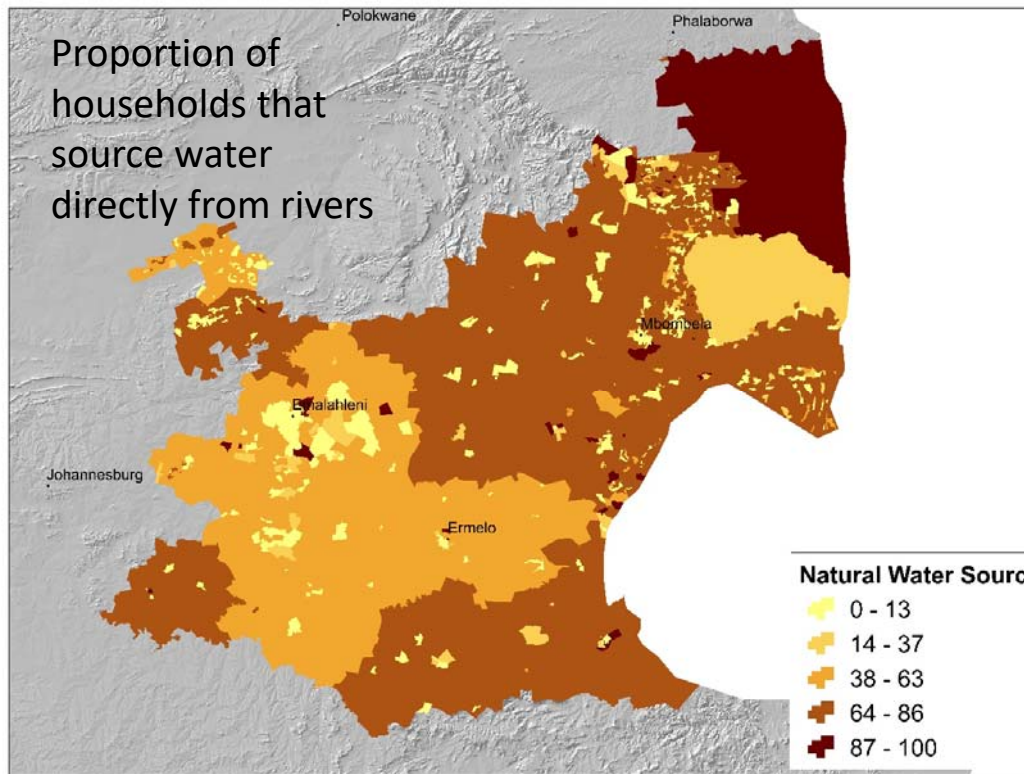
Land cover:
Nkangala_1990



Mpumalanga - Zoom into Nkangala



Mpumalanga – direct reliance of people on natural resources



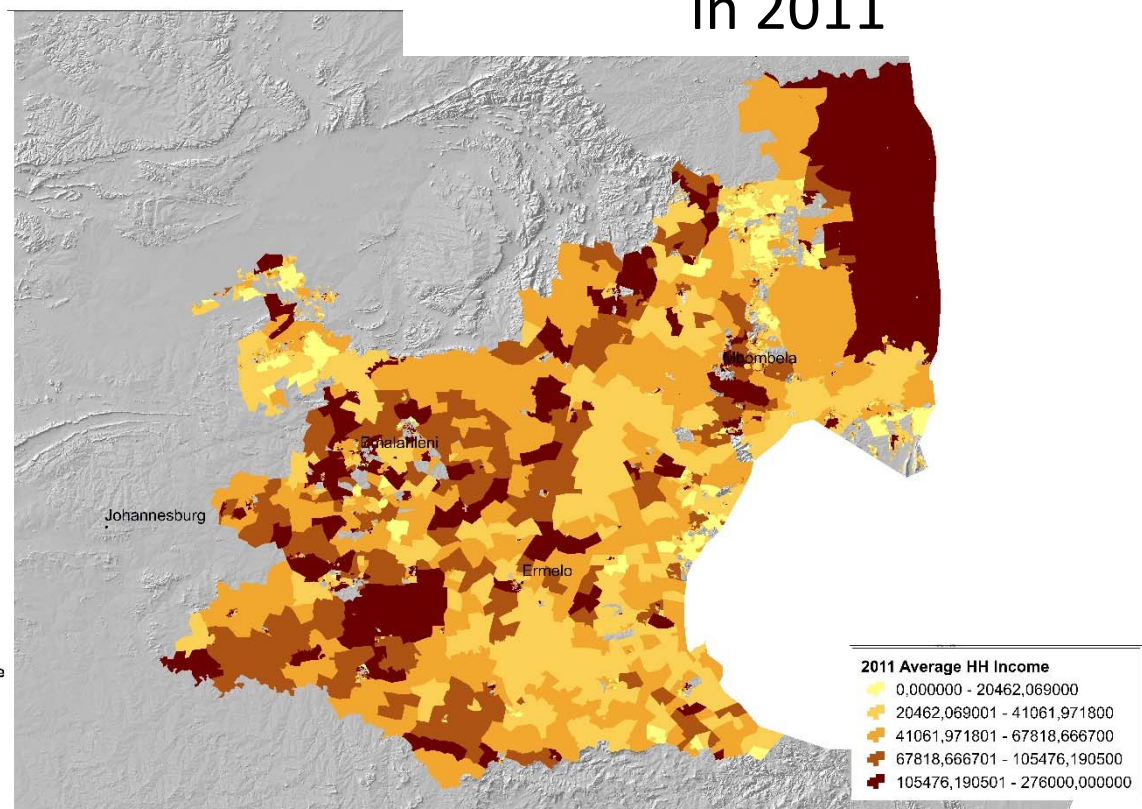
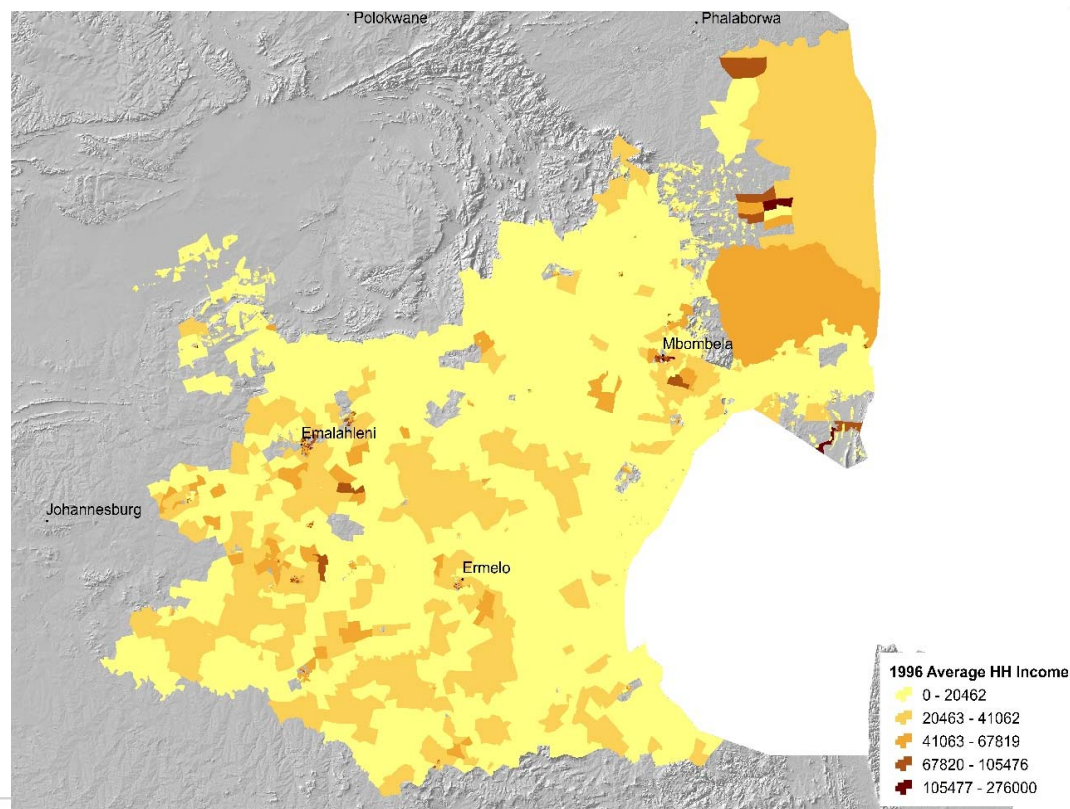
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Mpumalanga – household income

Average household income
in 2011



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Can also map employment
levels

Still to come: Strategy for advancing NCA in SA

- Will draw on inputs from stakeholders at the National NCA Forum
- Will feed into the **National Strategy for the Development of Statistics**, currently being developed by Stats SA
 - Fortunate timing!



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Thank you



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