

INFORMALITY, SOCIO-SPATIAL KNOWLEDGE AND URBAN RESILIENCE

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Urban resilience: what do we mean?

- Systems adapting to disturbances without losing their functions or changing states
- Capacity for flexibility, adaptation and learning in face of uncertainty and complexity

- Now: transformation
- environmental sustainability, social justice
- governance issues and asymmetric knowledge

Why urban resilience?

- Age of Anthropocene greater challenges and urbanizing world
- Climate change: extreme weather events, long-term shifts in weather patterns
- Pandemics
- Mobility patterns
- Future shocks and long-term stresses

Urban resilience capacity needed for general (unknown) and specific threats

Cities and their resilience?

- Cities nodes in wider networks across scales and time
 - Networks of flows across scales (vertical)
 - Activities clustered in space (horizontal)
 - Governance networks across scales and space
- Policy priorities and implementation built on knowledge construction, politics and power, community mobilization

Challenges for urban resilience I: development and informality

- Economic growth and innovation, employment
VERSUS precarious work and unequal wages;
- Population and housing expansion
VERSUS informal settlements, lack of infrastructure





Challenges for urban resilience II: environmental risks, informality, governance

- Environmental risks, stresses and shocks spread unequally
- Re-scaling of governance, fragility of LG institutions
- Democratic processes VERSUS patronage, exclusion



How to build urban resilience? The 5 Ws

- **From what to what?**
 - **For whom?**
 - **For where?**
 - **For when?**
 - **Why?**
 - **Outcomes as goals – social justice, better working env. systems**
- Prioritizing socio-ec., environmental issues;
 - Who is included, excluded from decisions? Trade-offs between stakeholders
 - Neighborhoods most at risk? Scale levels?
 - Short-term or long-term?

(Meerow and Newell, 2019)

Building urban resilience: informality, governance networks, knowledge construction

- Spatial inequalities and informality make households invisible; (see Ulbrich et al 2018);
- Community-based approaches provide knowledge through participatory mapping
- Local knowledge combined with top-down planning;
- Participatory socio-spatial knowledge instrument for local needs, monitoring, goal setting
- Urban governance multi-scalar; facing complexity and uncertainty; least funded or facilitated;
- needs local communities as partners to become effective

Decentralized community-based approaches and their contributions

- Mapping community-based knowledge in informal settlements
- Making communities 'visible' in trusted contexts – *capabilities, vulnerabilities, contestations, leadership*
- Mobilizing around common issues
- Developing 'partnerships' with NGOs, LG and others

Durban informal settlement

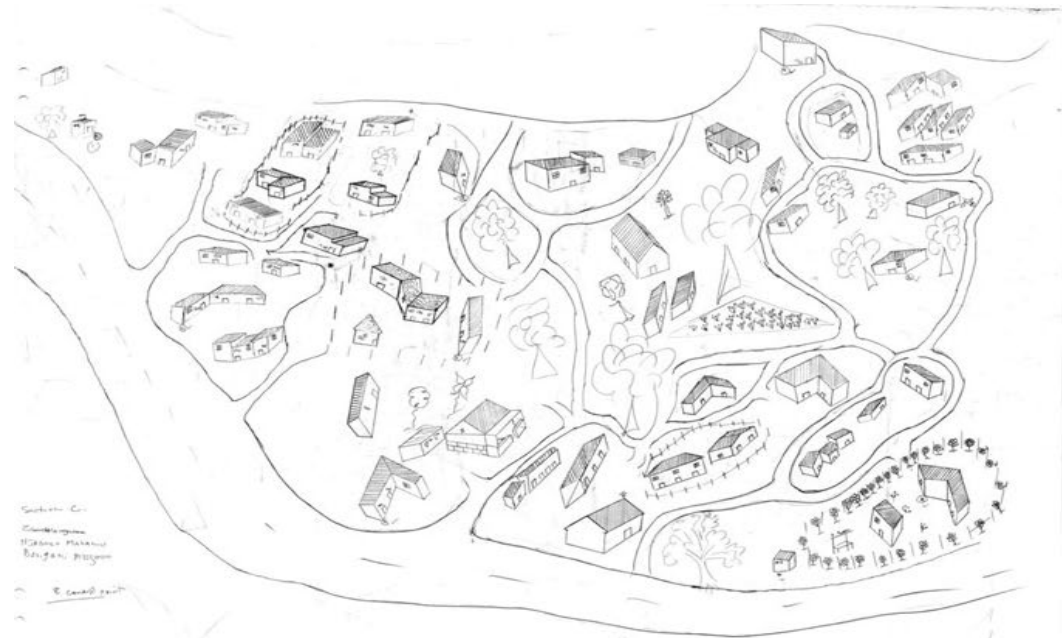
Informal settlement for relocation

Houses and communal areas mapped

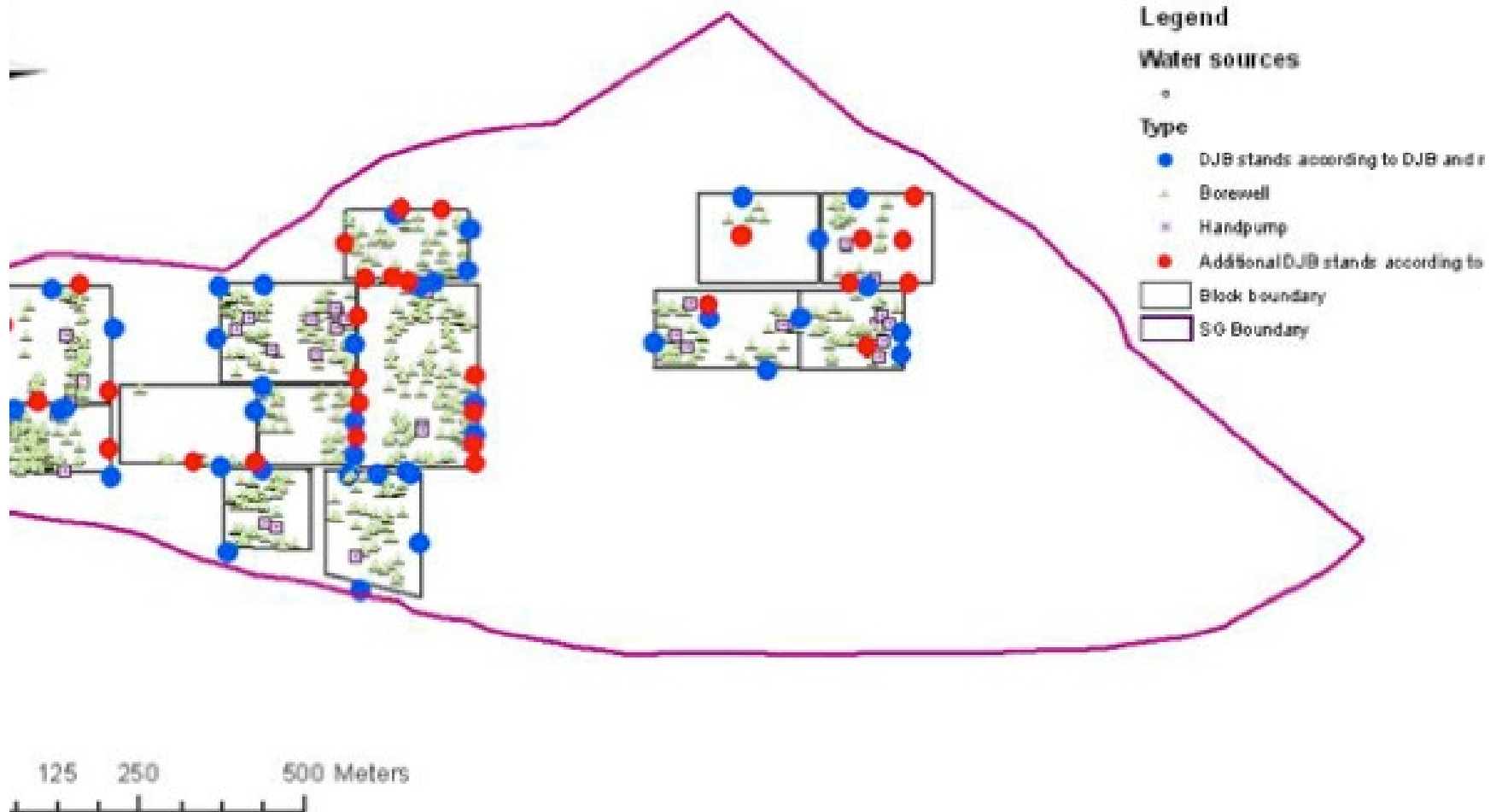
Identifying preferences for new location

Gradual relocation over the years

Source:
Chance2Sustain:
Sutherland et al. 2015



Delhi: Urban spatial inequalities and informality



Participatory socio-spatial knowledge construction

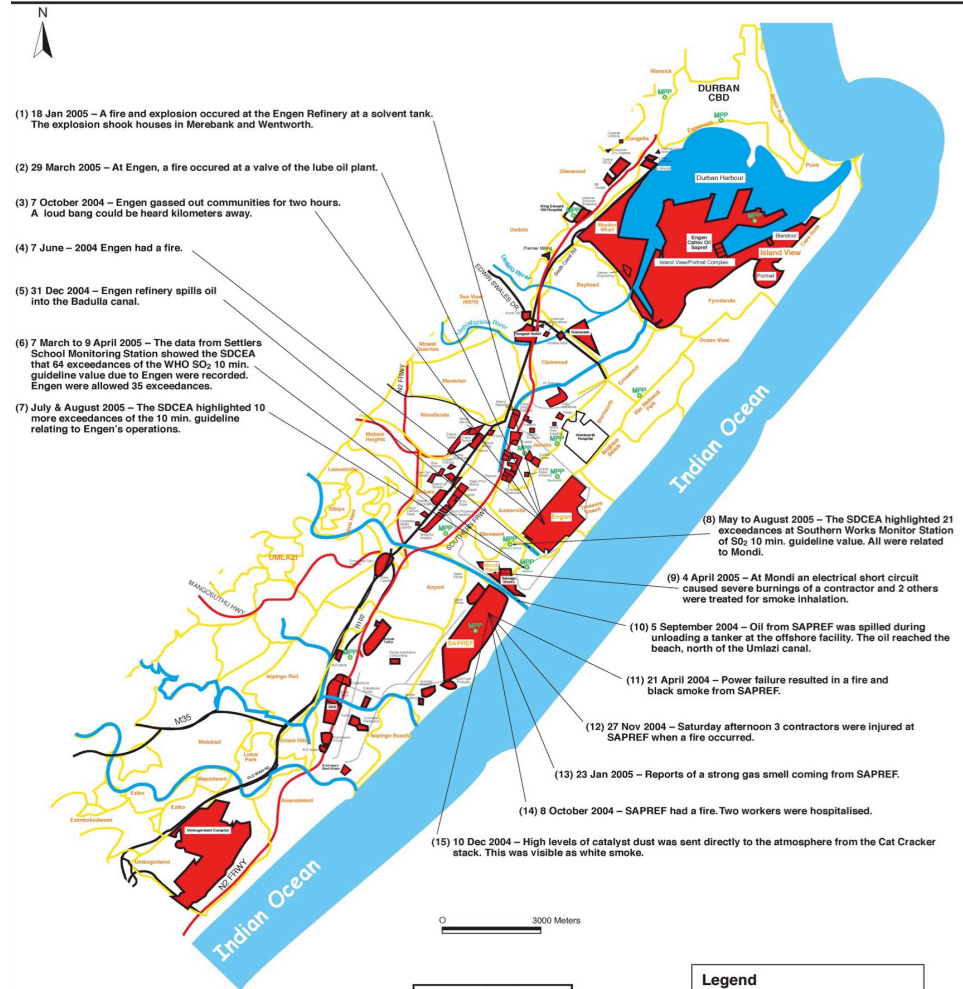
- Urban planning based on official information
-
- Informal settlements invisible
- Participatory processes allow recognition of informal settlement issues; contestation

Pollution risks to public health in South Durban

- mapping pollution
- with NGO and local community
- Citizen science measurements
- Contestation with chemical industries
- (Scott and Barnett 2009)

Pollution incidents in the South Durban Basin

A Community under siege April 2004 - Sept 2005



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Legend

Multi Point Plan Air Monitoring Stations

Roads

- National Roads
- Main Roads
- Other Roads

Other

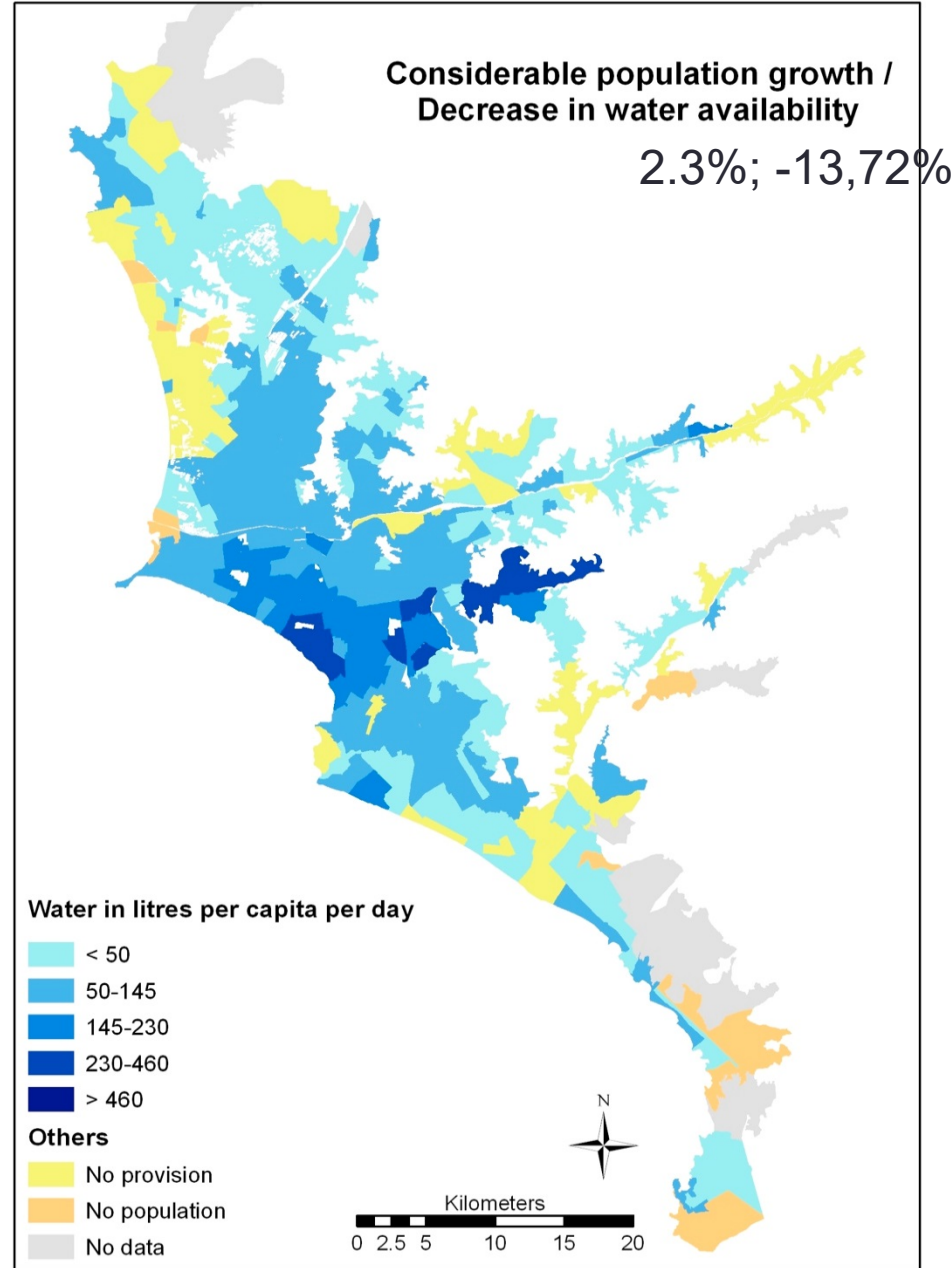
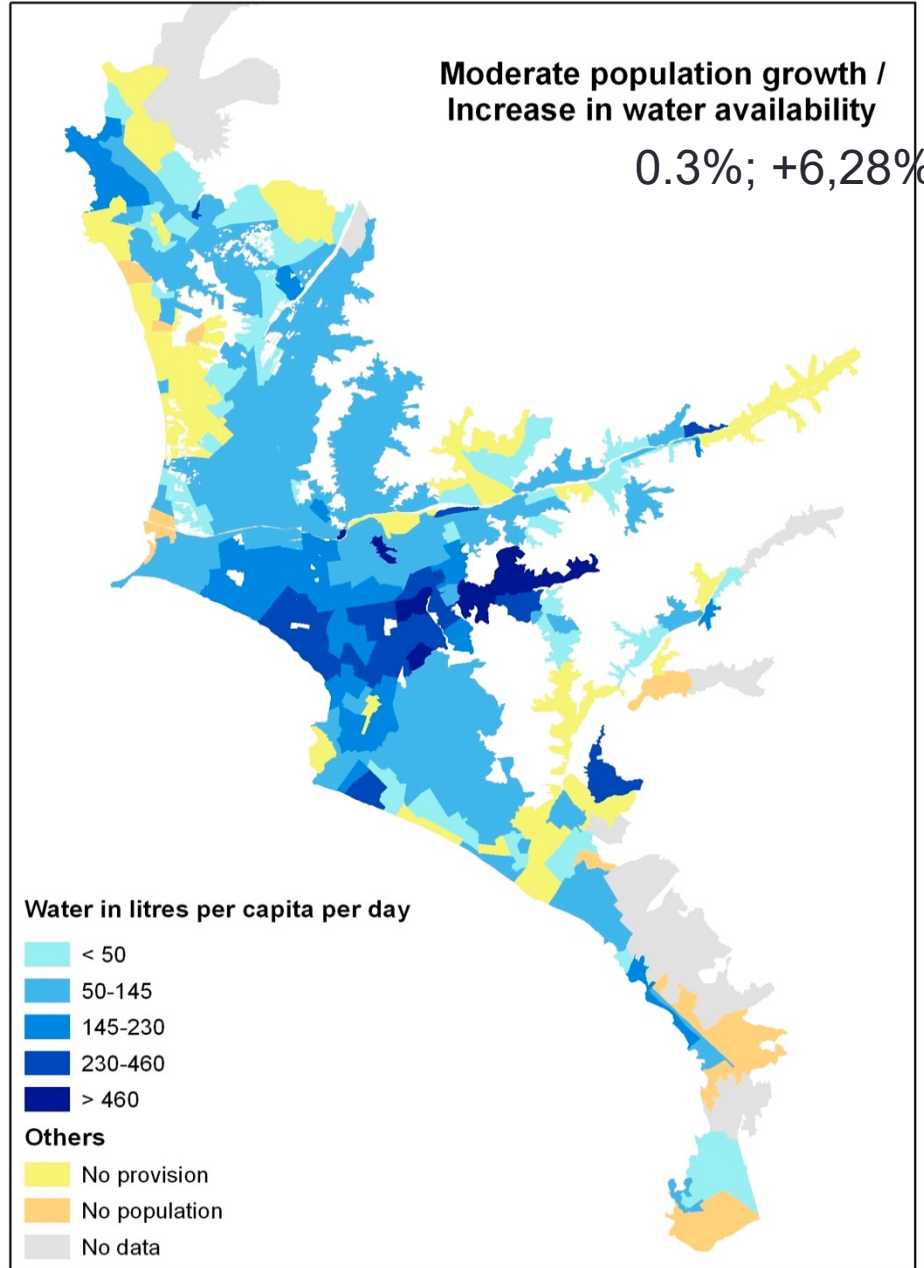
- Polluting Industries
- Rivers
- Place names
- Indian Ocean

The companies shown as 'Polluting Industries' were extracted from the South Durban Emission Inventory, which lists emitters of Sulphur Dioxide and other criteria pollutants.

Urban resilience through scenario building: facing complexity and uncertainty

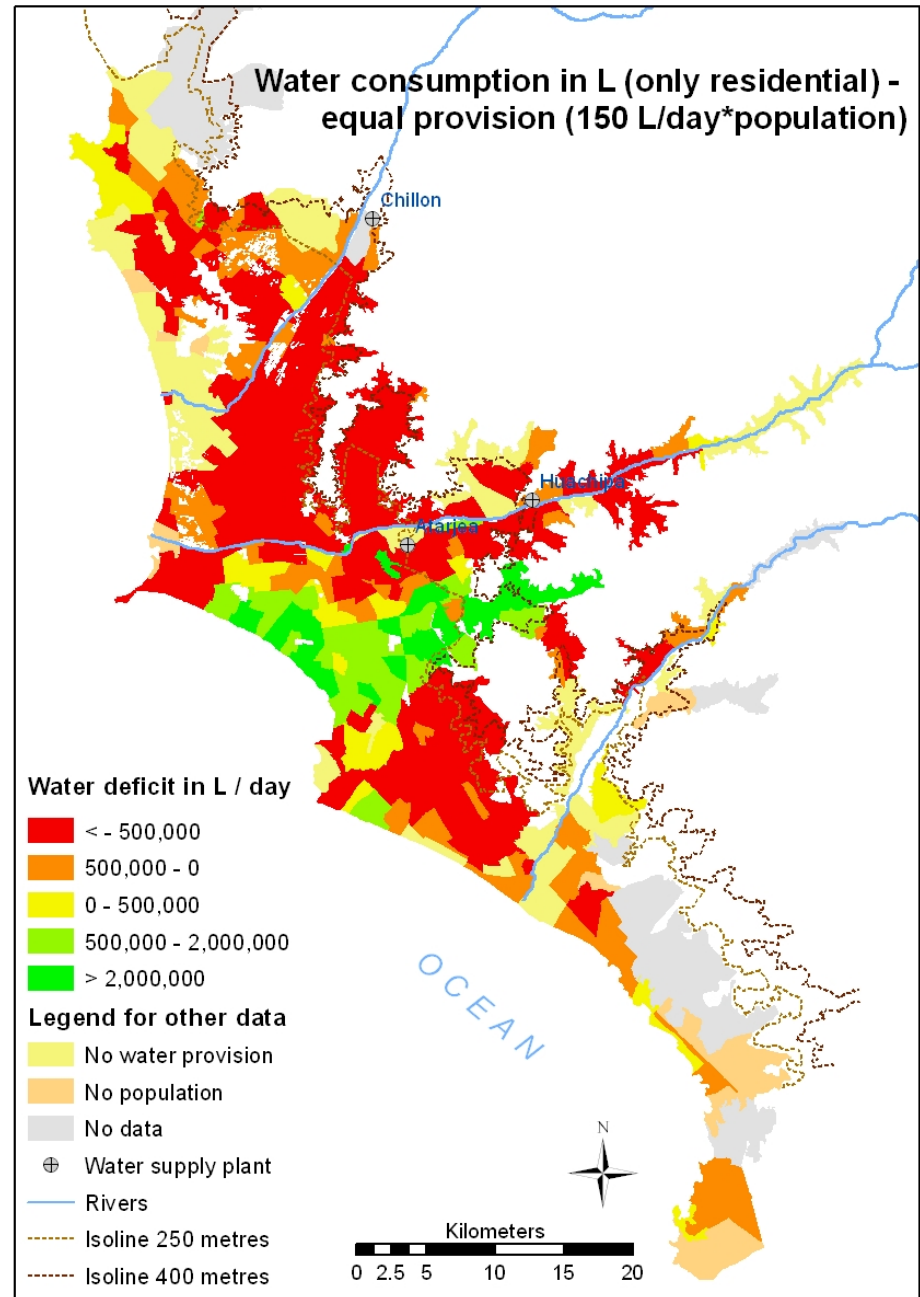
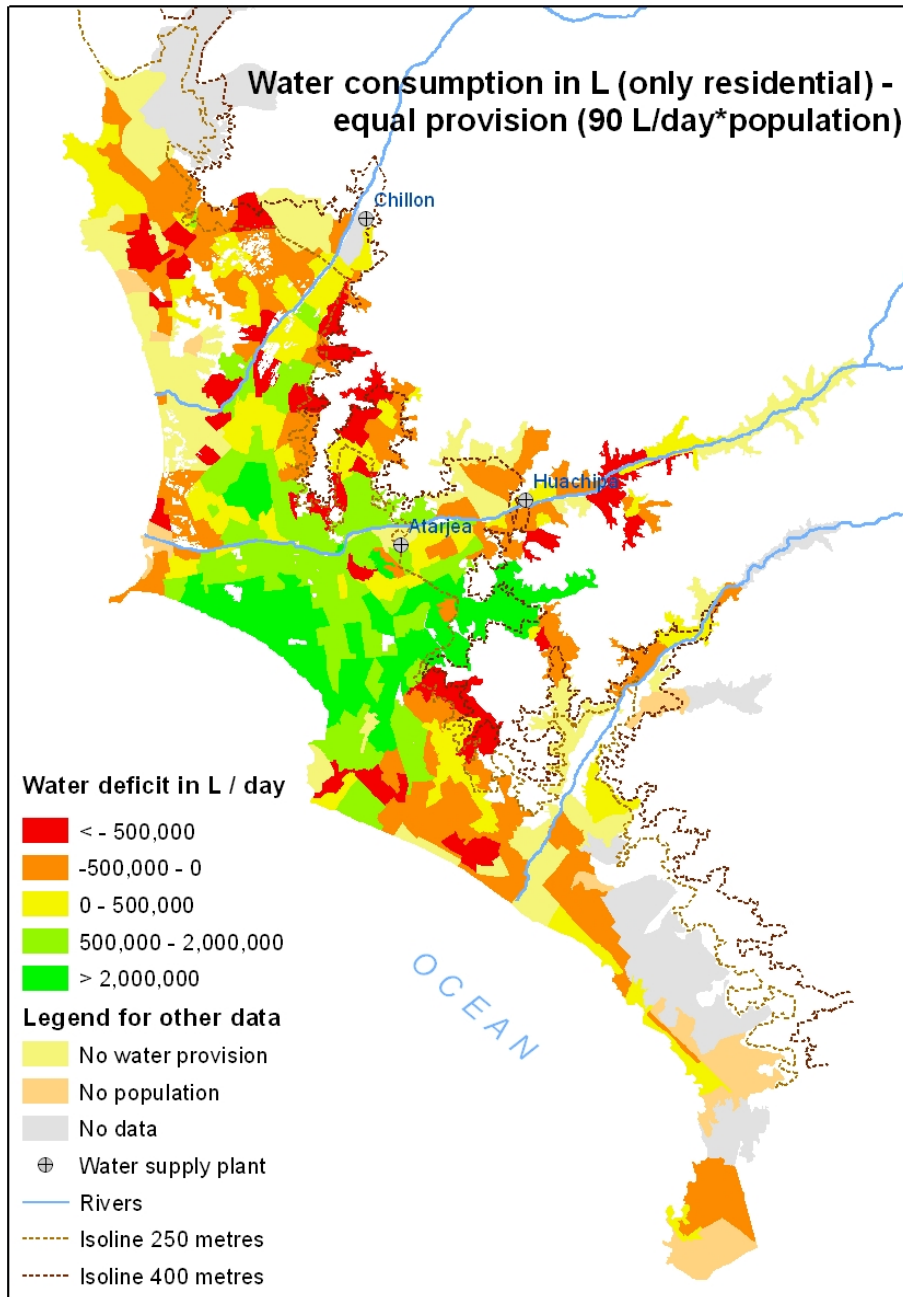
- Scenario building as knowledge instrument
- Including community knowledge through participatory processes
- Alternatives and their implications
- Decision-making to avoid future risks and increase resilience

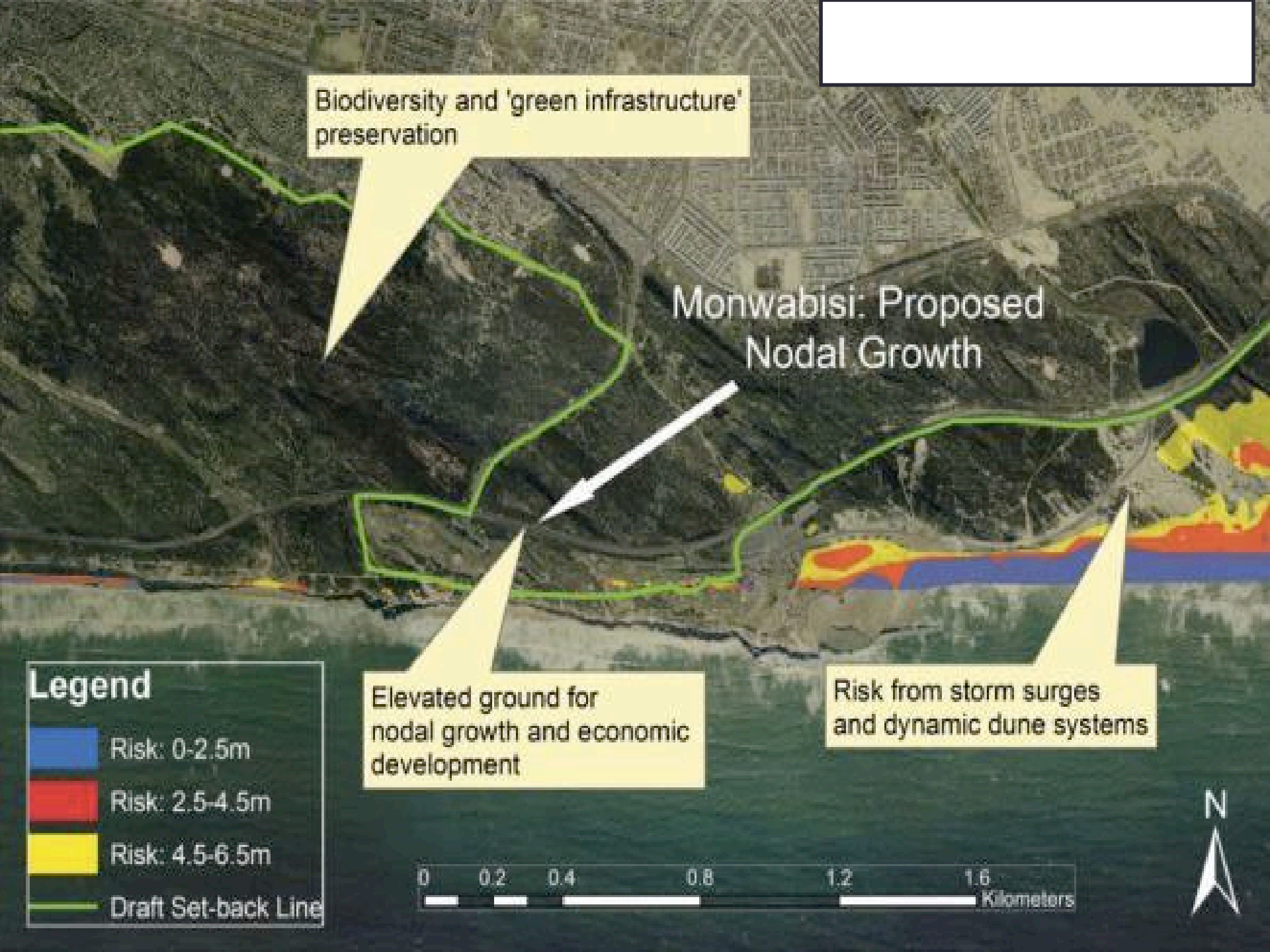
Combining population growth and future water consumption



Sources: Population census 2007 (INEI); Water consumption data 2007 (Sedapal); Population / water growth rates - Liwa project

Feasibility of equal water provision across Lima (2007)





Biodiversity and 'green infrastructure' preservation

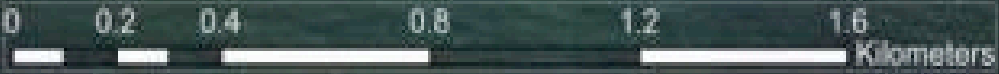
Monwabisi: Proposed Nodal Growth

Elevated ground for nodal growth and economic development

Risk from storm surges and dynamic dune systems

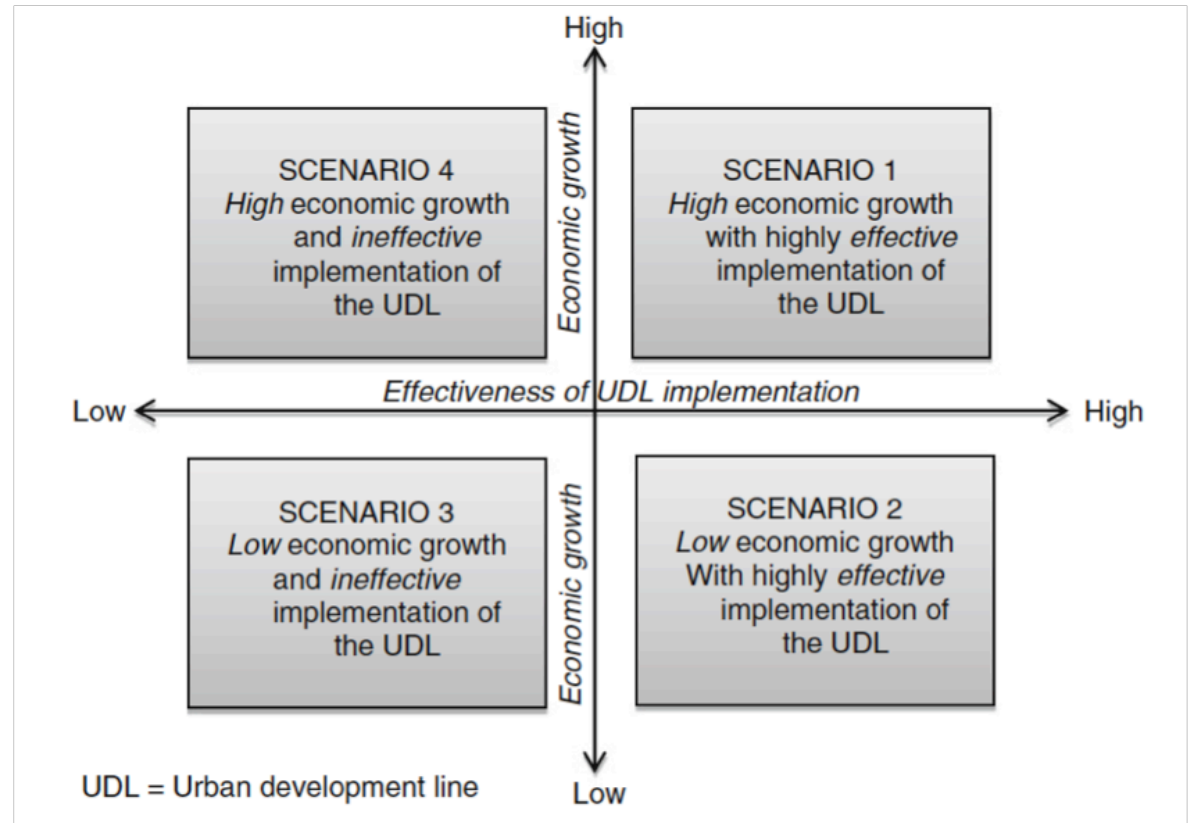
Legend

- Risk: 0-2.5m
- Risk: 2.5-4.5m
- Risk: 4.5-6.5m
- Draft Set-back Line



Scenarios related to Durban development

(Khan, Miranda Sara, et al. 2015)



Informality and Increasing urban resilience?

- **From what to what?**
 - **For whom?**
 - **For where?**
 - **For when?**
 - **Why?**
 - **Outcomes as goals – social justice, better working env. systems**
- Ignoring informal settlements to including their knowledge in setting priorities
 - Including informal residents who contribute to building cities
 - Urban Informal settlements provide needed housing – upgrade/integrate rather than relocate
 - Short-term vs long-term



Thank you!