

Water Research Commission WSD Perspective

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PARADIGM

- Impact orientation (Knowledge Tree)
- Development focus (R d <-> r D)
- Narrowing the implementation journey
- Multiplier effect



PARTNERSHIP

- Across stakeholder groups
- Public and private
- Local and international
- Funding
- Implementation
- Development
- Research



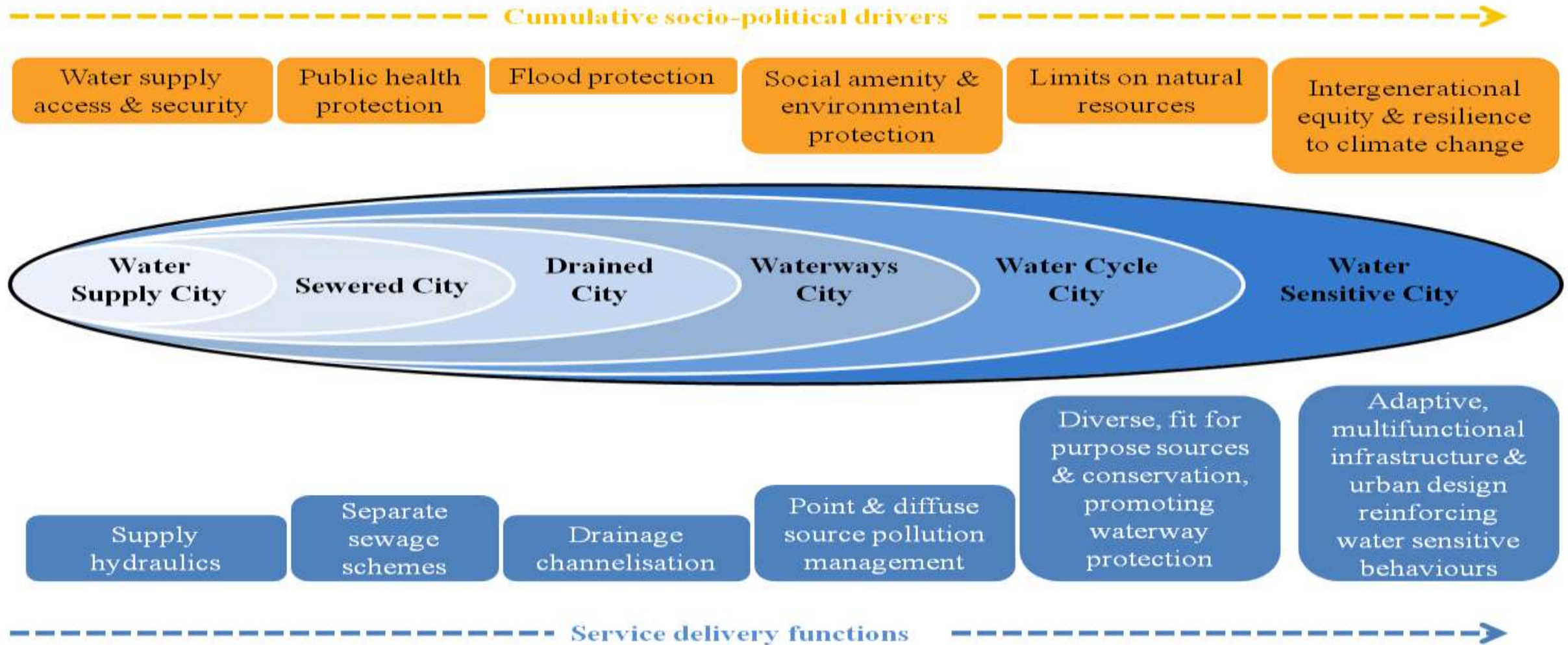
Investing in Water Sensitive Design (link between spatial planning and water planning)

Water Transition States

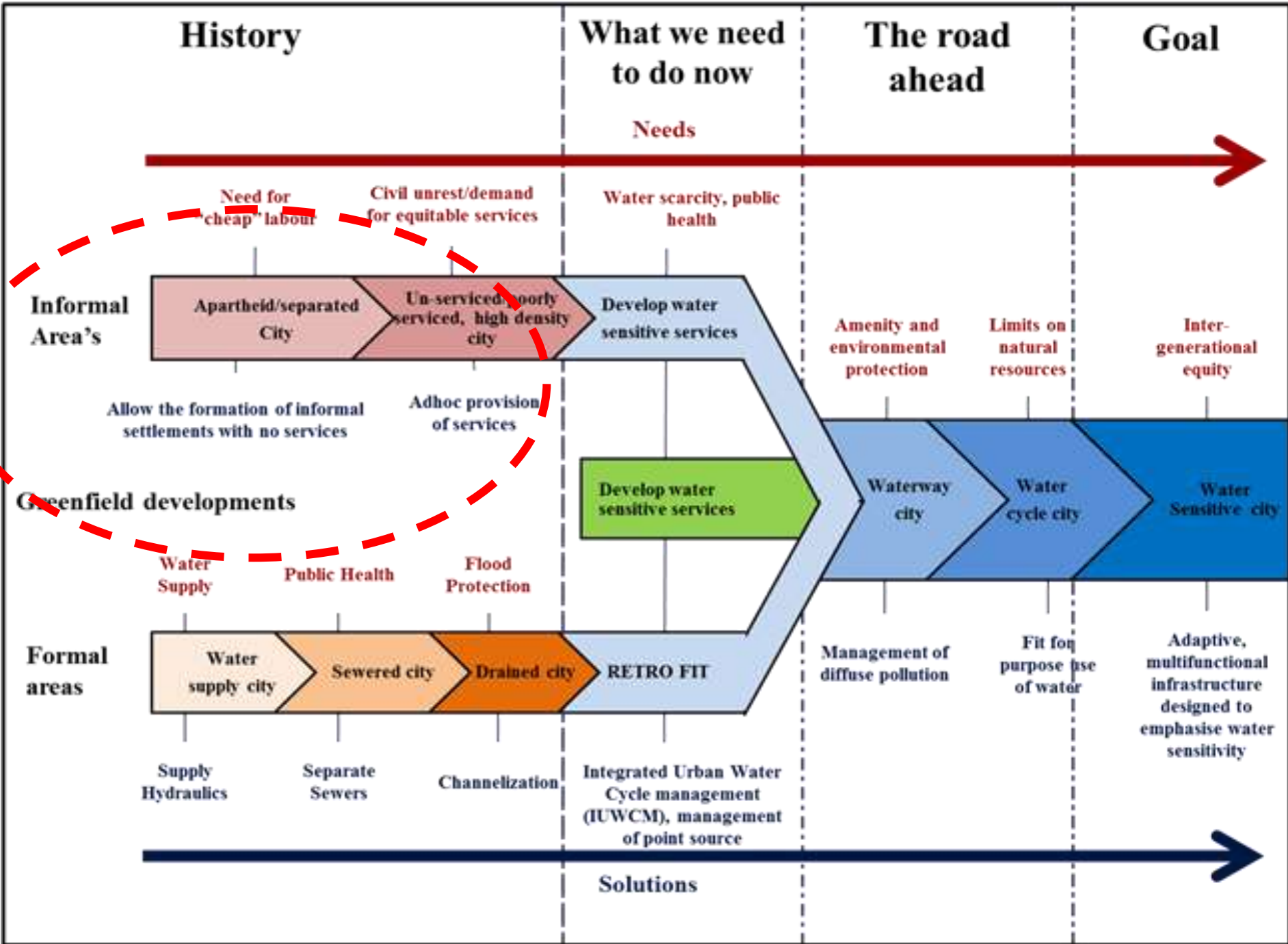
4 pillars of water sensitive settlements

Benefits

Water Management Transition States

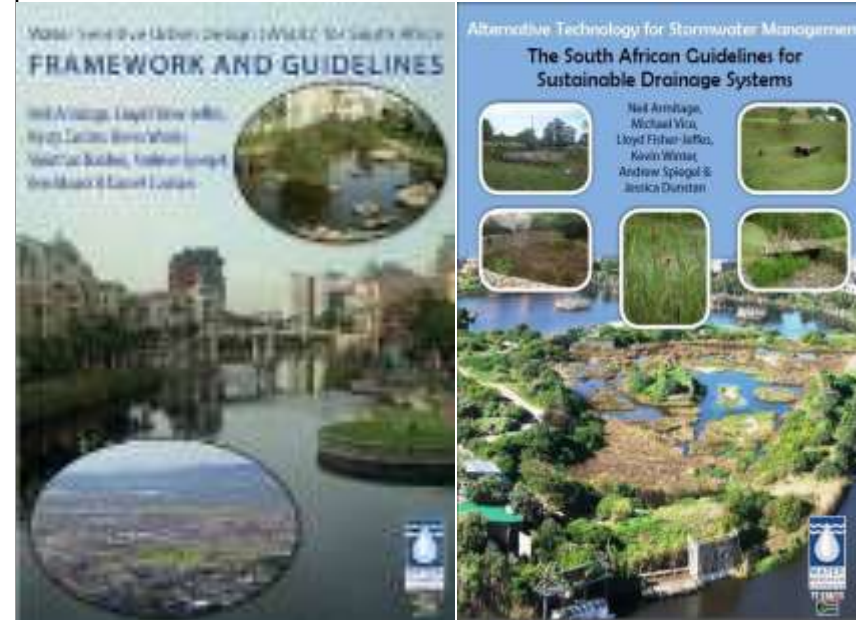


Sanitation Sensitive Design



Water Sensitive Design

- In Water services there is a disconnect between spatial planners and water planners as well as siloed planning
- WRC funded UCT to develop a SUDs guideline and framework on principles of WSD
- WRC took a strategic decision that elevating the concept to a Lighthouse would concentrate research from various institutions
- WRC then presented at various forums at local, provincial and national level (including international R&D platforms) to promote and disseminate amongst practitioners, consultants and academics.
- The WRC funded UCT to create a Community of Practice :



Water Sensitive Design

- Direct Benefits :

- UCT - Future Water Institute (transdisciplinary)
- 3 cities –
 - City of Cape Town - policy
 - eThekweni - New guidelines for green roofs / Led to eThekweni considering as part of planning for social housing projects
 - City of Johannesburg – continued to use the principles in its – climate change and drainage considerations
- International - CSE-India –
 - partnered and adopted the framework and SUDS guidelines
 - Training
- UCT/CSE-India - > 1000 people trained (inclusive of some African participants)
- Currently DST supporting CoP for further 3 years



Water Sensitive Settlements (WSS)

1.

'New taps'
(New water resources)

- Water demand management and conservation
- Stormwater / rainwater harvesting
- Treated effluent
- Groundwater
- Desalinated water

2.

'Blue-green infrastructure'
(Water sensitive management)

- Planning & design
- Economic value
- Health impacts
- Ecosystems services
- Social development
- Waterscapes
- Urban rivers
- Urban agriculture

3.

'Adapting to change'
(Building resilience / Governance)

- Resilience
- Strengthening governance
- Learning alliances
- Policy and law
- Communication / Social acceptance
- Management

4.

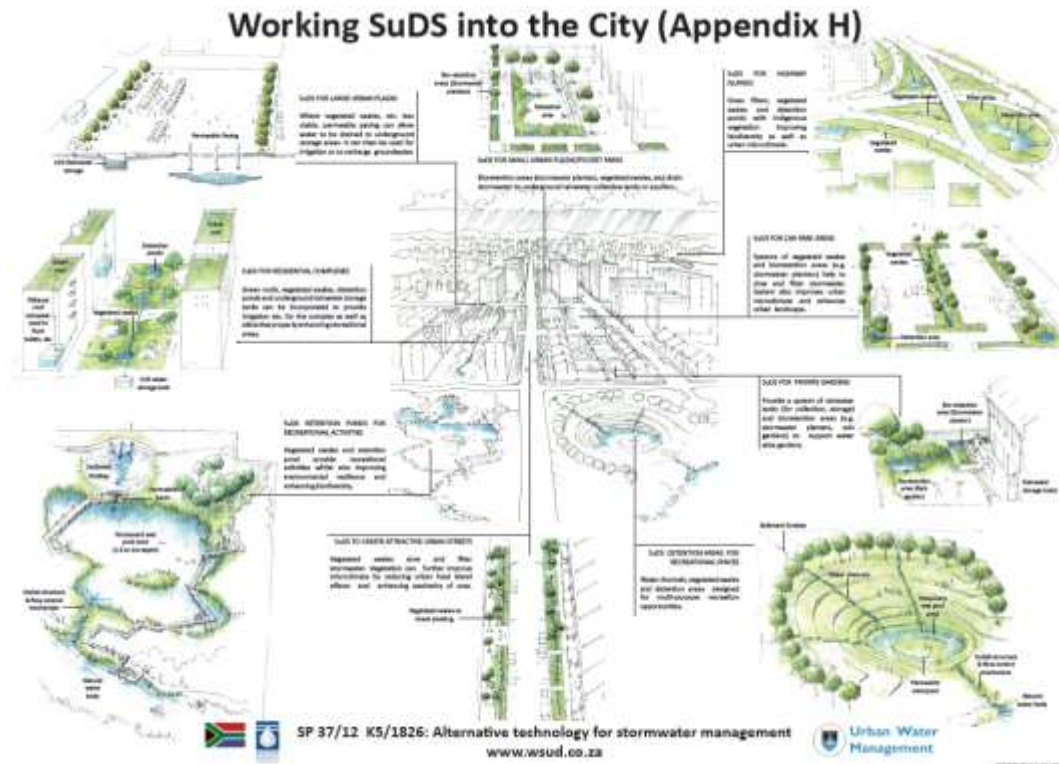
'Maximising value'
(Maximum value from minimum resource)

- Source separation
- Centralised vs decentralised
- Towards zero emissions
- Water treatment for purpose
- AMD treatment vs prevention / value recovery
- Integrated treatment
- Resource recovery
- Wastewater biorefineries

Civil Engineering - Environmental Science - Planning - (Construction) Economics - Biological / Molecular Science - Chemistry
Political Science - Geohydrology - Health Science - Sociology - Chemical Engineering - Public Administration - Anthropology

How are we doing?

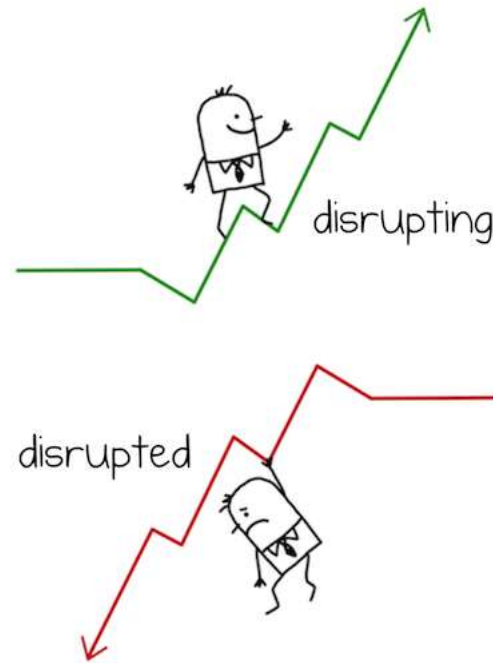
Drainage



WSD

- Integration – spatial planning and water planning (in progress)
- New Taps
- Blue-Green Infrastructure
- Adapting to change
- Optimizing Value (circular economy)

Thank you



All WRC researchers, sector and international and national partners acknowledged for their contribution