

Project Overview

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Key elements

Alleviating water stress sustainably

- Nature-based approaches that link storm runoff and wastewater to water supply
- Water sensitive urban design elements and landscape based solutions
- Integration of built water infrastructure with green infrastructure in a decentralised manner
- Physical and institutional integration

"to identify opportunities for, and generate knowledge on, the physical and institutional integration of decentralised nature-based solutions into the urban water cycle to support and accelerate a transition towards water resilience in South African cities. "

Work package streams

Work Package 1

Physical experimentation with and evaluation of WSUD options at different urban scales

Work Package 2

Exploring governance processes for enabling the emergent transitions



Management and dissemination



Activities – year 1



Selections (different contexts, scales etc.):

Pilot sites – stormwater ponds in Cape Town

Case sites in Joburg

Arena members

First year activities and teams:

Stakeholder workshops (June 2019)

> Output / deliverable scheduling

Stakeholder startups:

Selection of sites

Mapping of challenges and actors

Initial reflections on pathways

Work Package 1

Physical experimentation with and evaluation of WSUD options at different urban scales

- Establishment of pilot experiment using two repurposed stormwater ponds in Cape Town - testing efficiency of infiltration and improvements in water quality of surface runoff
- Feasibility and efficiency of on-going and completed SuDS / WSUD initiatives and plans in Johannesburg
- Test findings, methods, designs
- Options for physical integration

WP1 Physical experimentation

Cape Town site selection criteria

- **Dry stormwater pond** with potential for MAR
- Area with an **unconfined aquifer**
- Area with characteristics suitable for surface to groundwater transfer *e.g.* relatively flat terrain, high porosity, conductivity, transmissivity *etc.*
- Accessible and safe for experimental activities

13 pre-selected ponds



Westgate Mall





Water Hub



Water Hub

Image © 2013 DigitalGlobe

2003

MAR&R - surface to groundwater transfer





Proposed bioretention cell



(EPA SWMM Manual vol. III, 2016)

Options for WSD and stormwater harvesting in Jhb





Work Package 2

Exploring governance processes for enabling the emergent transitions

- Mapping and evaluating urban water/green infrastructure regimes, niches, hydro-social contracts by system and actors analysis/inventory of key actors in existing solutions
- Arena groups established in both cities and going through a three meeting process; masterclass, site visit/hands-on learning and pathways/visions
- Arena hosts symposia visions and embedding

WP2 Governance processes



Mainstreaming WSD – moving beyond conventional

- What is the governance environment; who are the WSD stakeholders in CT and Jhb?
- How is WSD performing in CT and Jhb? Where are they on the transition to resilience?
- What governance 'pathways' are required? Is it physical integration or pathways and visions for water resilience / sustainability?



Roles and masterclass



At site – hands-on learning and exploration

Experiments Evaluations

Who gets involved, how and to what extent is the solution managed or integrated with the existing urban water regime?



Arena hosting city symposia



Pathways and visions