

# Stockholm World Water Week 2018

## Solving the capacity gap to scale non-sewered and decentralized sanitation.

Stefan Reuter,  
*BORDA Executive Director*





**Empowering people**  
to make their communities more liveable!



# Decentralised Wastewater Treatment Systems



Development Solutions Award 2011 Practice

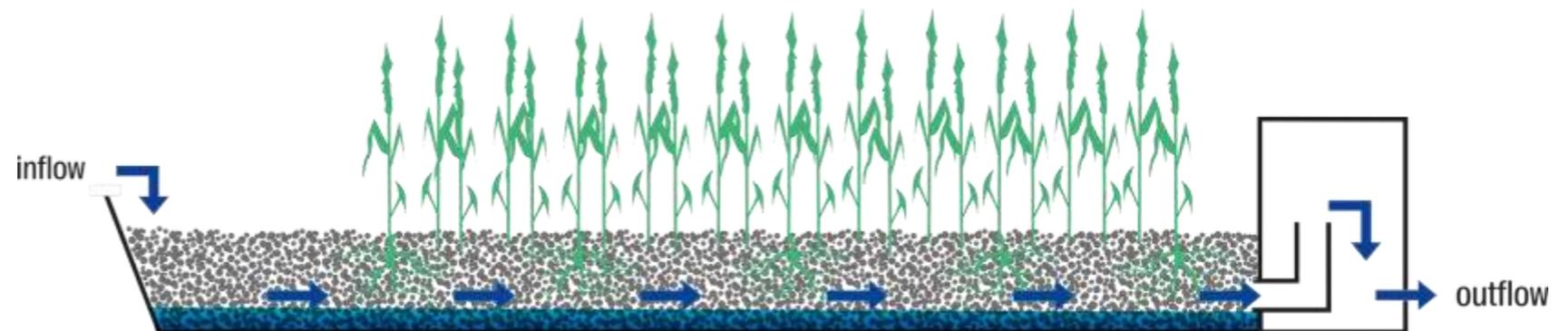
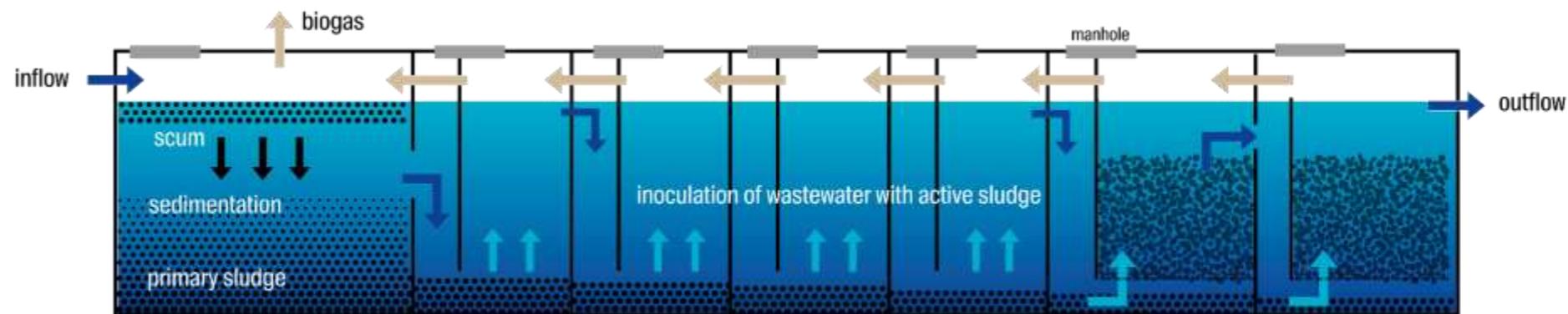
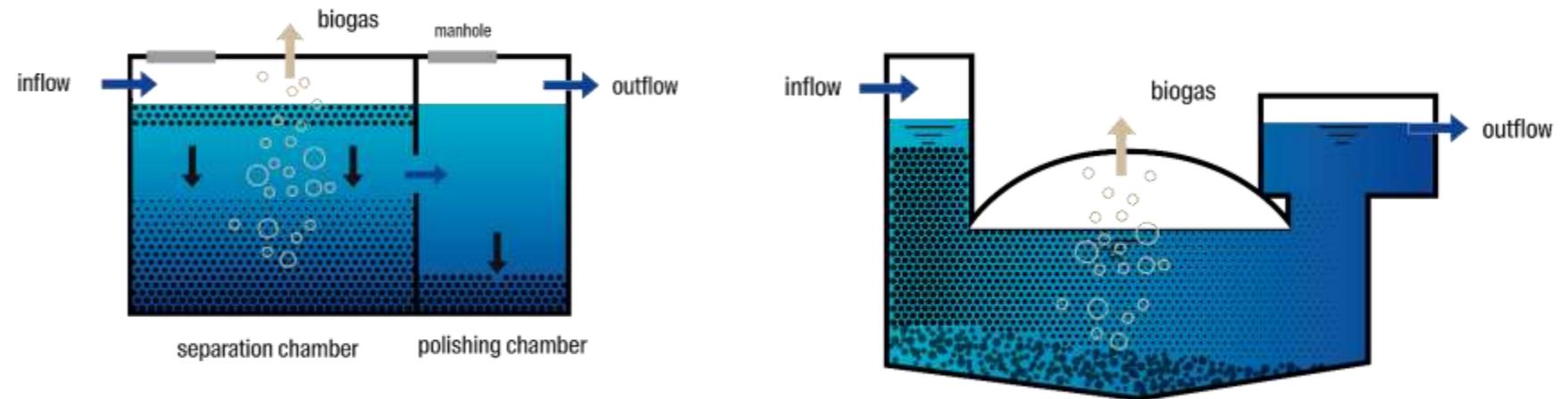
Sedimentation



Anaerobic digestion



Aerobic and facultative decomposition



# 4000+ systems for water & sanitation

100 partners, 20+ countries, 400+ specialists

- Bremen
- Las Américas
- Africa
- Western and Central Asia
- South East Asia
- South Asia





- ▶ ...is passionate about urban liveable spaces based on environmental balance, social justice and human rights.
- ▶ Aiming at urban transformation, BORDA wants to make sanitation accessible for everyone – forever.
- ▶ BORDA connects technical expertise, global insights and access to decision makers, to make a meaningful contribution in the form of knowledge, technology and empowerment.

# Content

- ▶ Dealing with Introjects
- ▶ Understanding the water services chain
- ▶ Case Asia – City Alliance
- ▶ Case Africa – eThekweni Municipality, RSA
- ▶ Case Africa – Dar es Salam, TZ
- ▶ Recommendations

# Links in the water services chain



# Links in the water services chain



For the chain to work each link must be:

- ▶ Distinct
- ▶ Strong
- ▶ Connected to the others
- ▶ Pulled in the same direction

# Links in the water services chain



Decides Public Policy Objectives  
Sets Policy for Action  
Allocates Public Resources  
Sets Tariffs & cost recovery  
Arbitrates between diverging interests  
Reviews Changes in conditions  
Adjusts Policy Objectives

# Links in the water services chain



## **Support to Policy Makers**

Planning, Information, Options etc.

## **Implementation of Public Policy**

Public Procurement

Enforcement / Compliance

## **Regulation**

Financial / Accounting

Technical

Quality

## **Monitoring, Control & Data**

# Links in the water services chain



## **“Industrial” Operation of Service:**

*(Some or all of the following)*

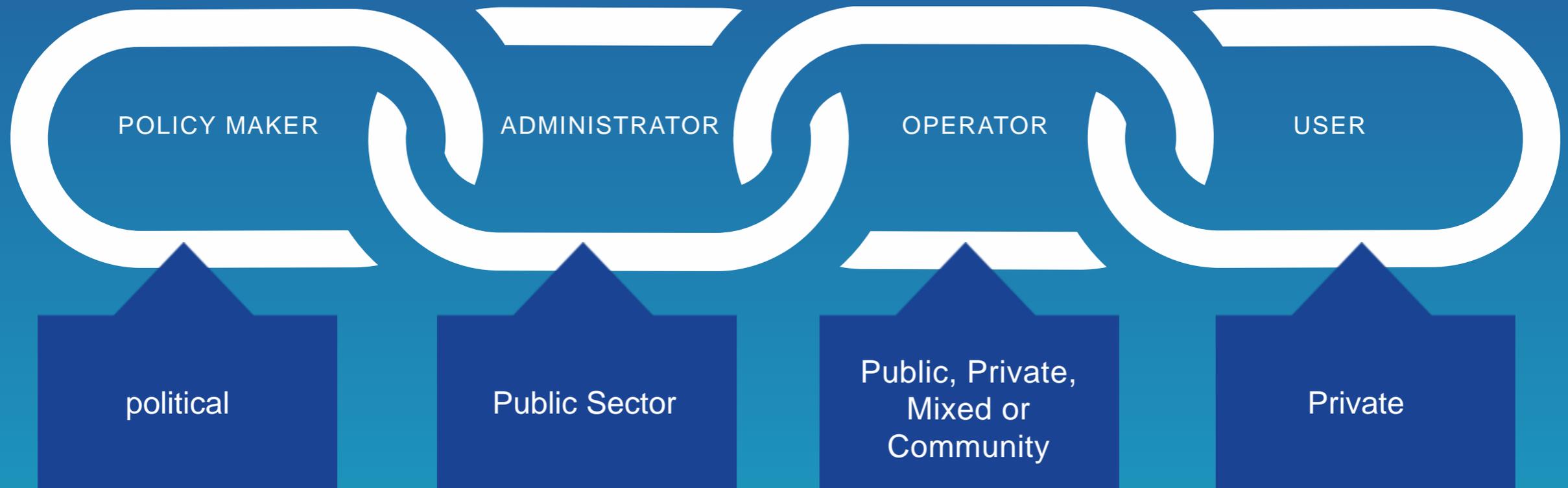
- Routine operation
- Customer & community relations
- Maintain infrastructure & equipment
- Repair/replace assets
- Construct infrastructure
- Operate cost recovery
- Management of suppliers & sub-contractors
- Provide advice to Policy Makers**

# Links in the water services chain



Enjoys the Benefit of the services  
Respects the terms & conditions  
Pays the Tariff or Taxes  
Respects other users  
Respects the service provider  
Engages in public interest issues

# Links in the water services chain



## City Alliance ‘People. Sanitation. Cities’



- Internationally linked interest group and a community of practice of cities and associates on integrated sanitation for the management of urban waters



## City Alliance ‘*People. Sanitation. Cities*’

- Founding cities/provinces:

Cambodia: Kratie Province

Indonesia: Sleman Regency;  
City of South Tangerang

Jordan: Sahab

Laos: Luang Namtha Province

Myanmar: City of Yangon

Philippines: Municipality of Bauang

Vietnam: City of Bac Ninh



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Indonesia: **Sleman Regency – Head of City Alliance 2018**  
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## City Alliance '*People. Sanitation. Cities*'

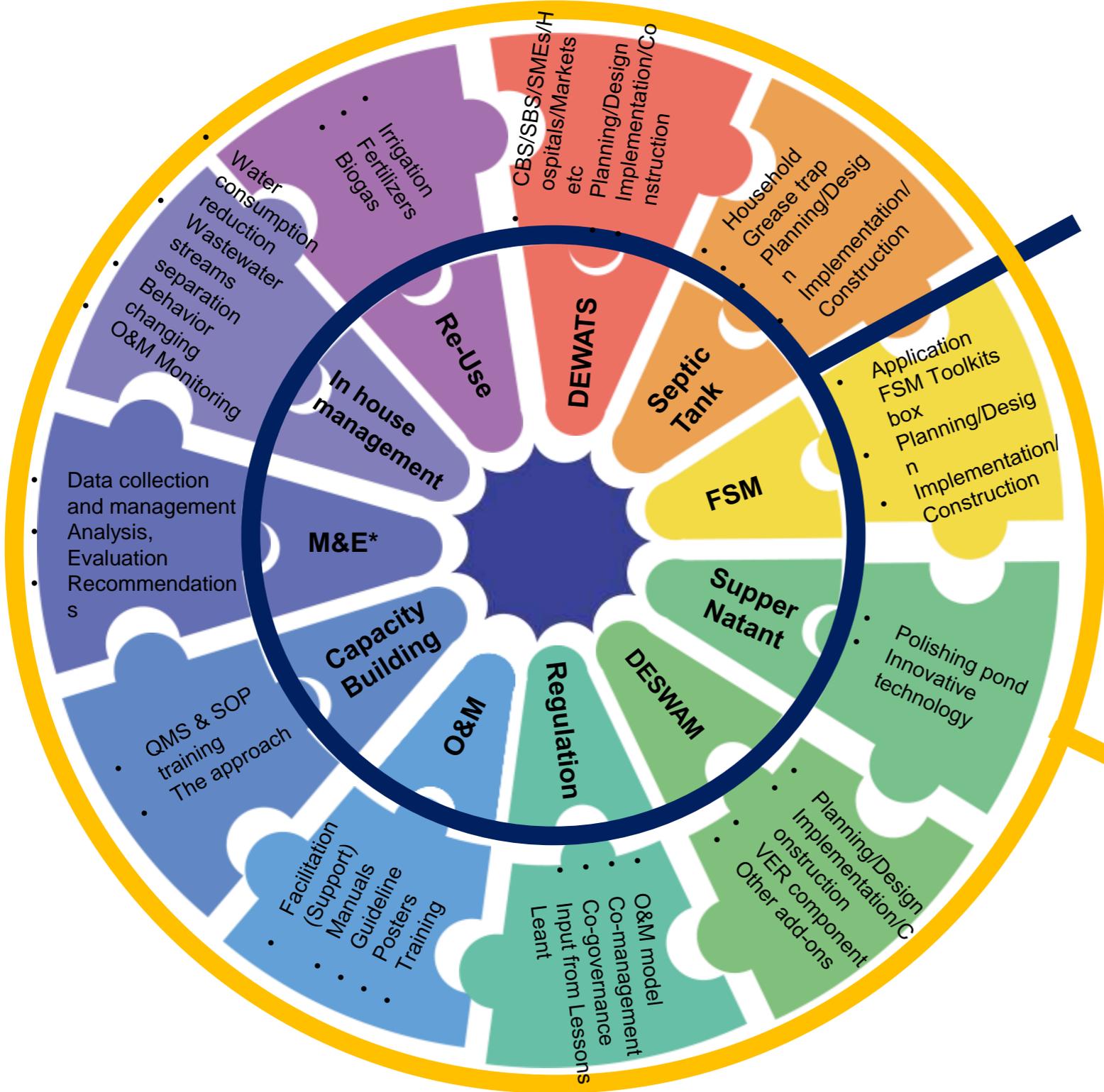
- Objectives:
  - Establish a regional knowledge platform and exchange network
  - Communicate and bring forward the interests and needs of cities towards national decision makers and regional stakeholders; related to the application of system solutions
  - Promote system solutions as a contribution to the SDGs and the New Urban Agenda towards local, national, regional and international stakeholders



# From decentralized Sanitation solutions towards Polycentric Approaches

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# BORDA SEA Portfolio – “Pizza”

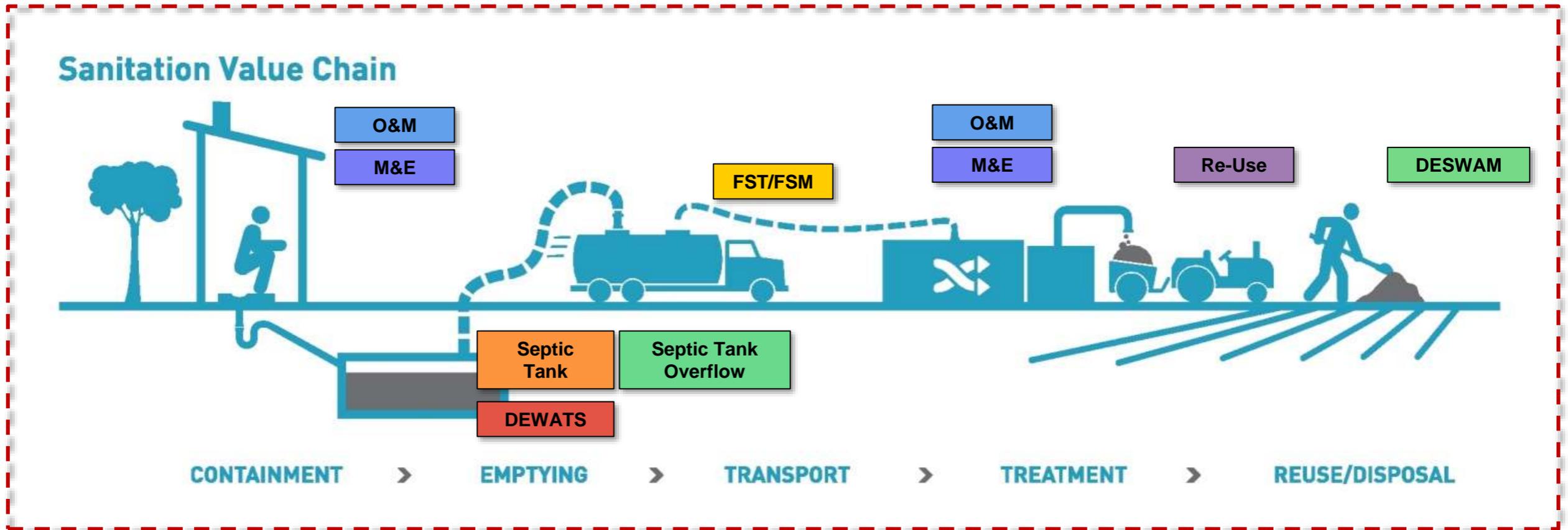


**modules**

**Instruments  
methods**

- Re-Use**
  - Irrigation
  - Fertilizers
  - Biogas
- DEWATS**
  - CBS/SBS/SMEs/Hospitals/Markets etc
  - Planning/Design
  - Implementation/Construction
- Septic Tank**
  - Household Grease trap
  - Planning/Design
  - Implementation/Construction
- FSM**
  - Application
  - FSM Toolkits
  - box
  - Planning/Design
  - Implementation/Construction
- Supper Natant**
  - Polishing pond
  - Innovative technology
- DESWAM**
  - Planning/Design
  - Implementation/Construction
  - VER component
  - Other add-ons
- Regulation**
  - O&M model
  - Co-management
  - Co-governance
  - Input from Lessons Leant
- O&M**
  - Facilitation (Support)
  - Manuals
  - Guideline
  - Posters
  - Training
- Capacity Building**
  - QMS & SOP training
  - The approach
- M&E\***
  - Data collection and management
  - Analysis, Evaluation
  - Recommendations
- In house management**
  - Water consumption reduction
  - Wastewater streams separation
  - Behavior changing
  - O&M Monitoring
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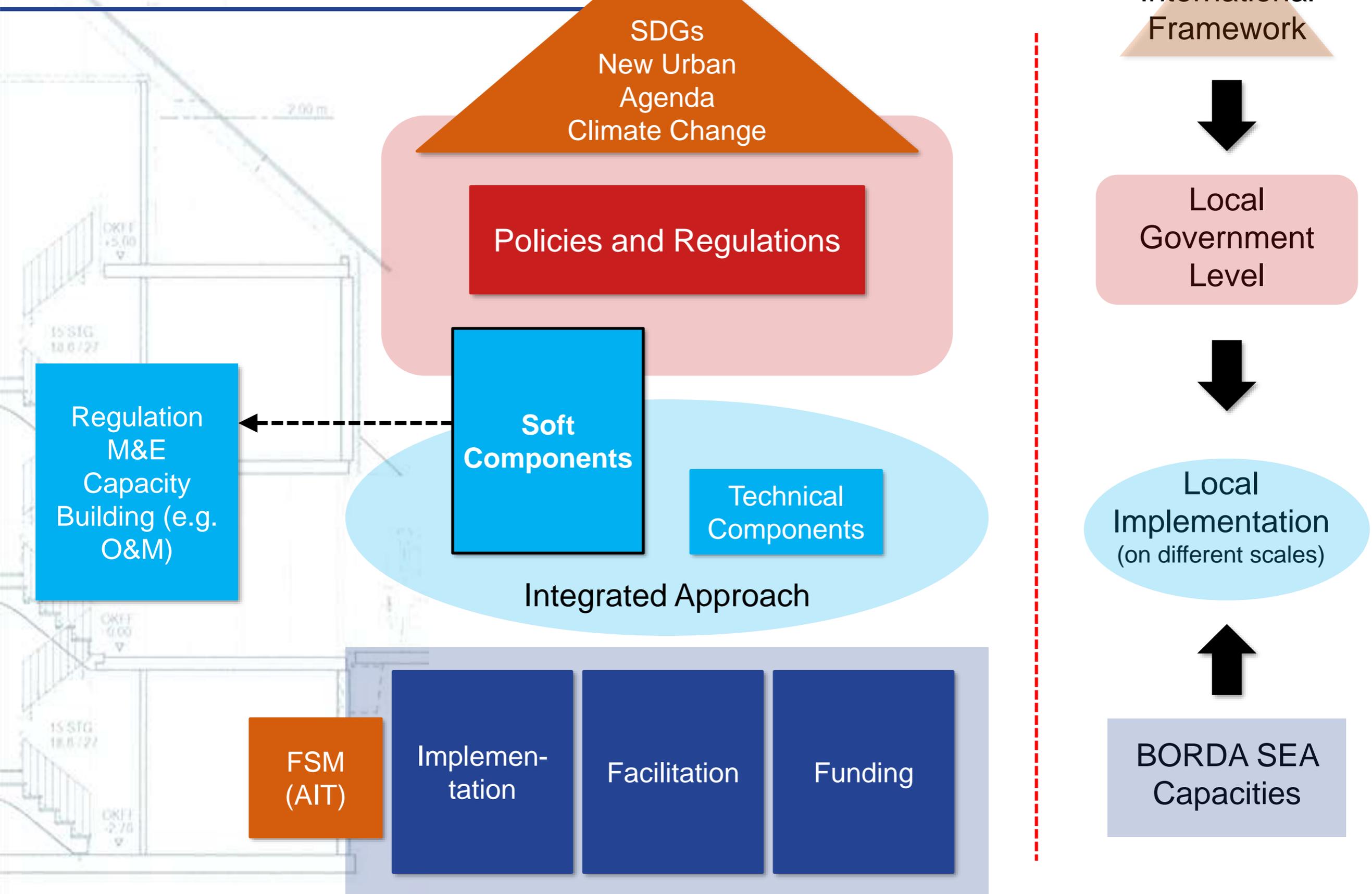
# BORDA SEA Portfolio and Sanitation Value Chain



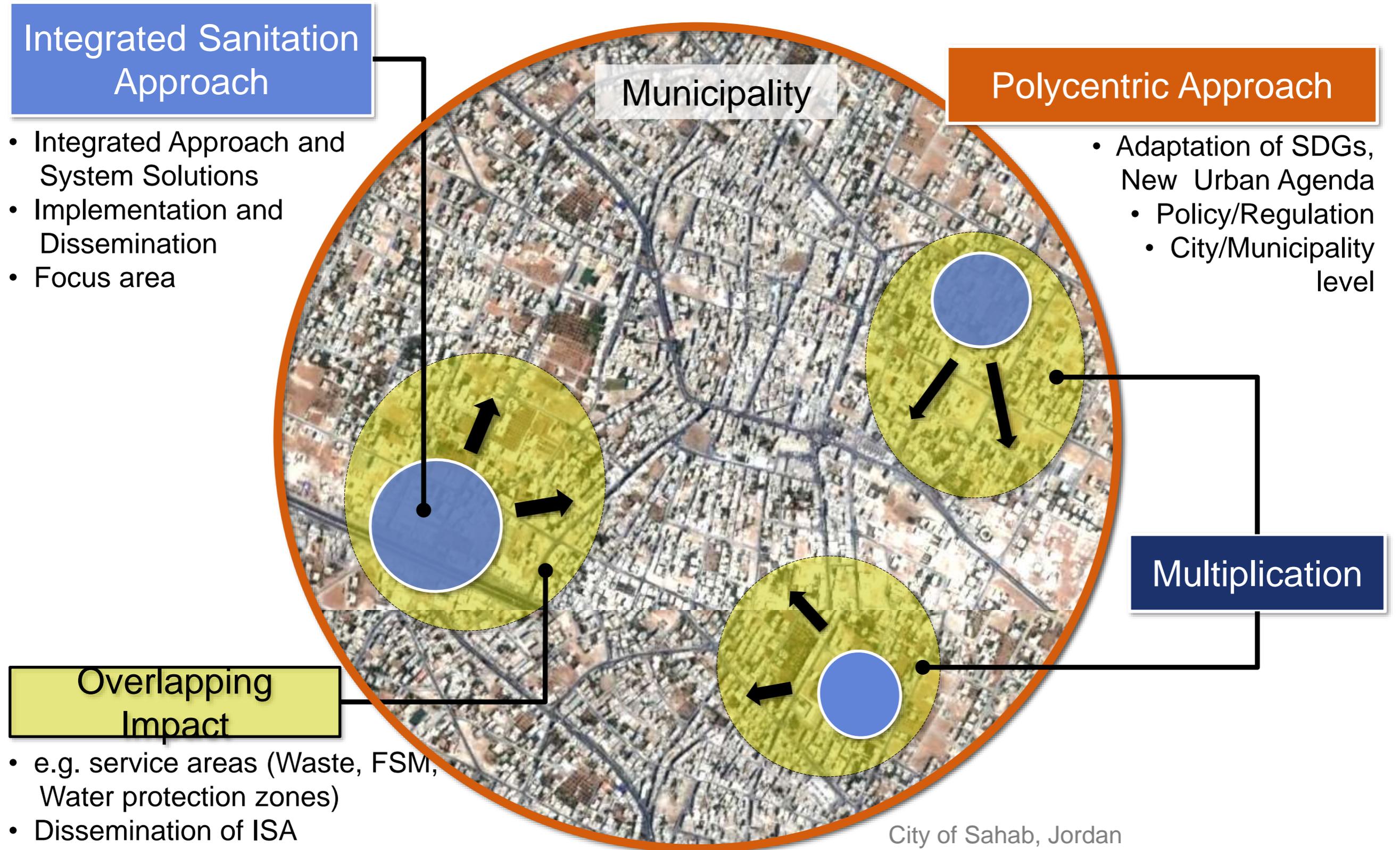
## Governance and legal framework



# Intervention levels and interrelation of Modules



# Towards Polycentric Approaches for Urban Waters and Sanitation



# eThekwini South Africa



## Good Science makes Good Policy

*How research supports WASH projects within the eThekwini Municipality*

*"Without data, it's just an opinion"*



WATER AND  
SANITATION

Many of these projects are undertaken with joint funding from local and international funding organisations. These include:

- ❖ South African Water Research Commission (WRC)
- ❖ Bill & Melinda Gates Foundation (BMGF)
- ❖ Bremen Overseas Research and Development Association (BORDA)
- ❖ National Research Foundation (NRF)
- ❖ Department of Science and Technology (DST)

## Good Science makes Good Policy

This document is divided into six categories:

- ❖ Section 1: Overarching research initiatives
- ❖ Section 2: Research projects at the Newlands Mashu Research Facility
- ❖ Section 3: Research and Ventilated Improved Pit Latrines
- ❖ Section 4: Research and Urine Diversion Toilets
- ❖ Section 5: Research and Pour Flush Toilets
- ❖ Section 6: Research related to Water and Sanitation Management

Each section contains a fact sheet on a particular research initiative together with contact details for further information.



# The WASH Guiding Principles of EWS include the following:

- › Working within the boundaries of a water-scarce environment by linking sanitation systems to water supply
- › Following the “Law of EcoSan” by investigating ways in which nutrients can be recovered for use in agriculture
- › Ensuring that implementation is backed by sound scientific research through creating partnerships with local and international organisations
- › Regularly interacting with the people they serve to ensure two-way communication and awareness through an extensive educational and outreach programme
- › Sharing of expertise with other municipalities through the MILE initiative.

# Planning on City Scale: Dar es Salaam, TZ

**City Sanitation Planning**

**Population density** [?]

- Low Density
- Medium Density
- High Density

**Access to Roads** [?]

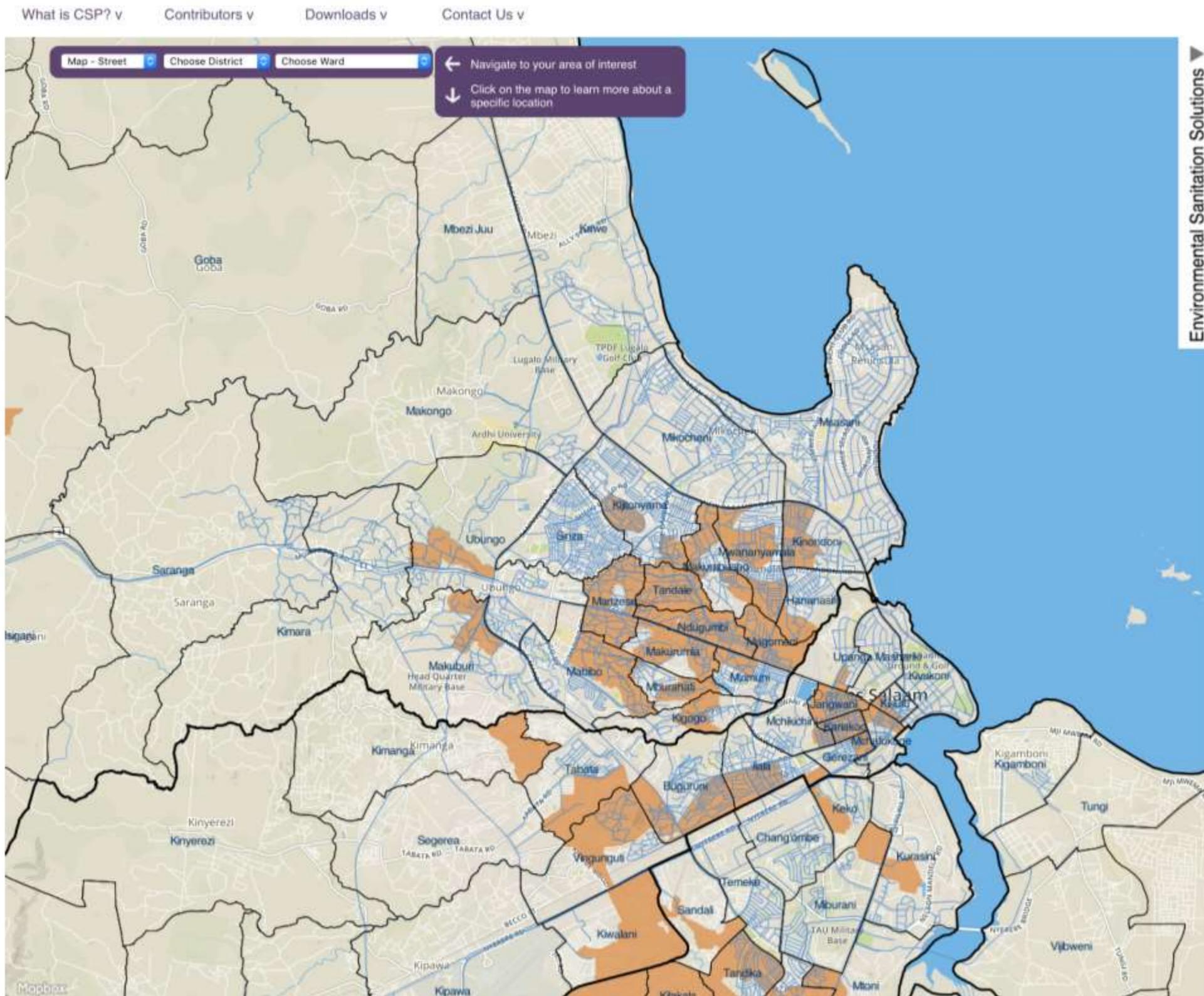
- No/Limited Road Access

**Additional Local Data** [?]

- Cholera Prone
- Flood Prone
- Cholera & Flood Prone
- High Ground Water
- Water Supply Network
- Sewer Network
- Wastewater Treatment Ponds

**Community Water Schemes** [?]

- Select All
- Water Tanks
- Bore Holes
- Water Points
- Service Area



**Environmental Sanitation Solutions**

The area you have selected is:

None Selected

+

None Selected

+

Select income level : [?]

- Low income
- Middle income
- High income

View Additional Local Data:

Display all Layers

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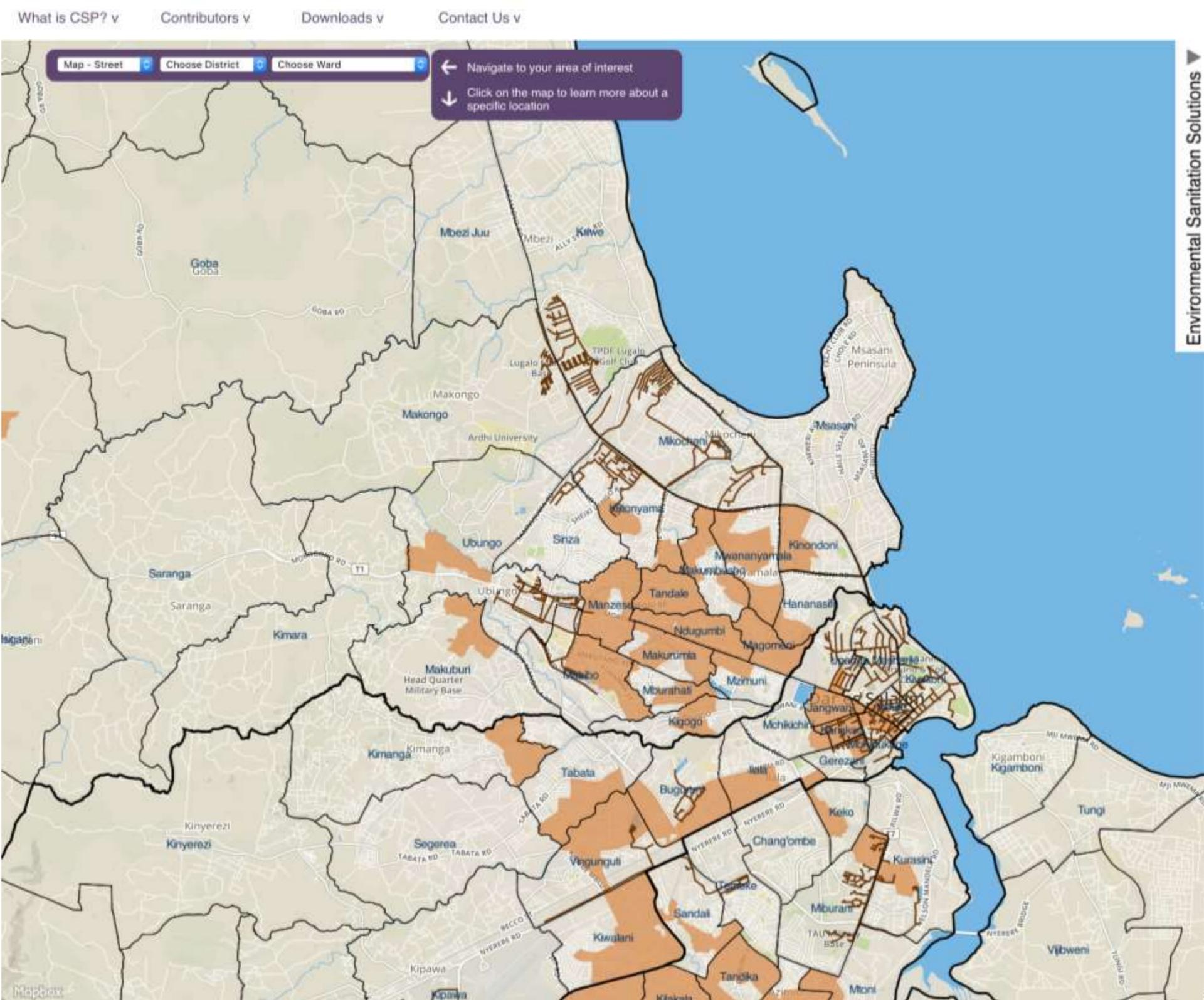
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Environmental Sanitation Solutions



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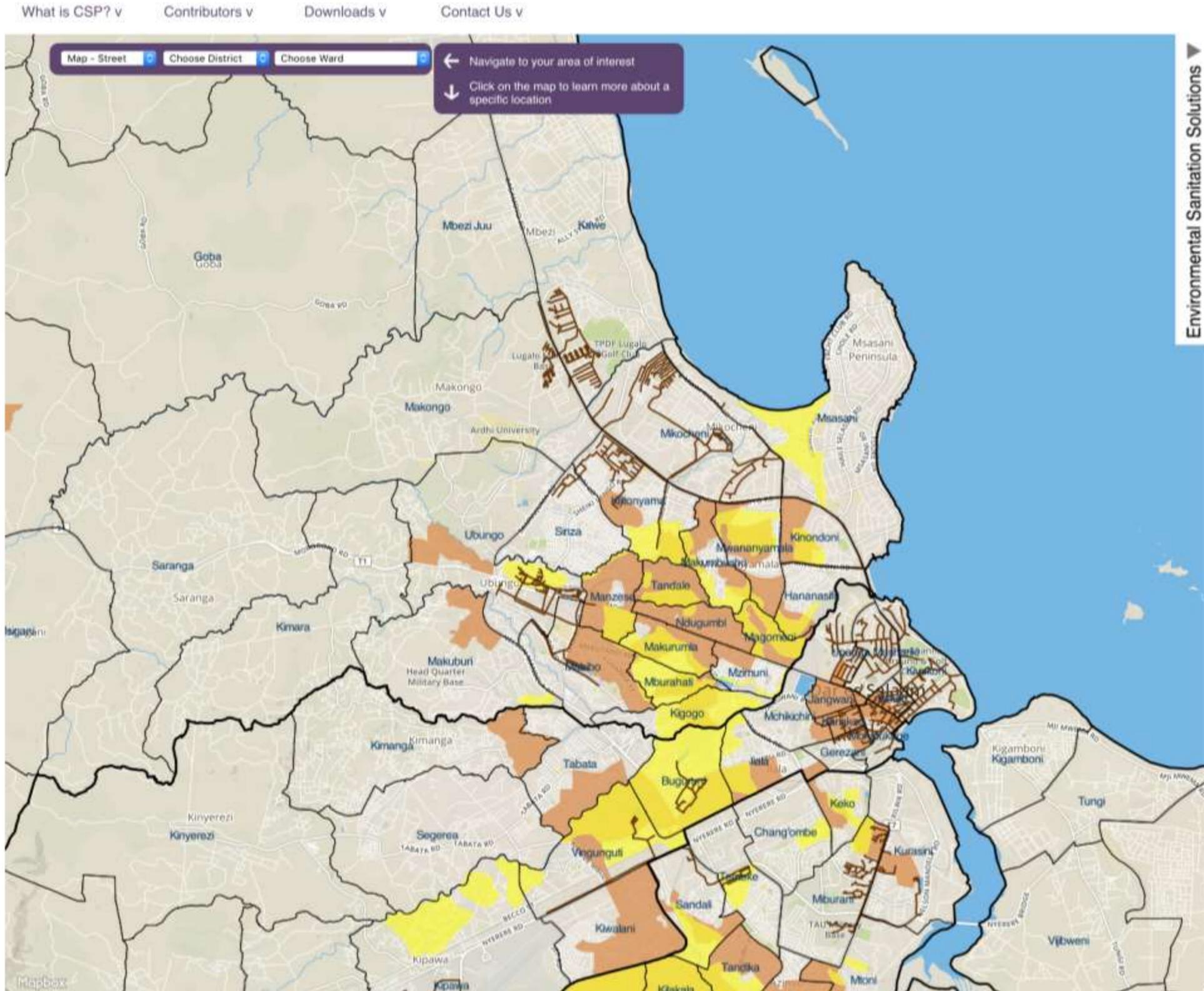
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# Recommended methodologies

- ▶ Process handholding and mentorship
- ▶ Facilitating multi-stakeholder involvement in planning and decision making
- ▶ Exposure visits: exchange on good & poor practice
- ▶ Utility partnerships
- ▶ Regulator partnerships

# Recommended skill set

- ▶ Political economy – political will
- ▶ Get out of your comfort zone – engage with stakeholders
- ▶ Leading from behind – support those in duty
- ▶ Systems leadership & partnership skill for collective action: overcome inertia, understand roadblocks, contribute to systems learning and strengthening
- ▶ Complex systems, adaptive processes, ongoing functions that's tougher than getting paid for results
- ▶ ...needs Money/resources



**Faecal Sludge  
Management**  
Sanitation for all  
– a visual insight



**BORDA**

