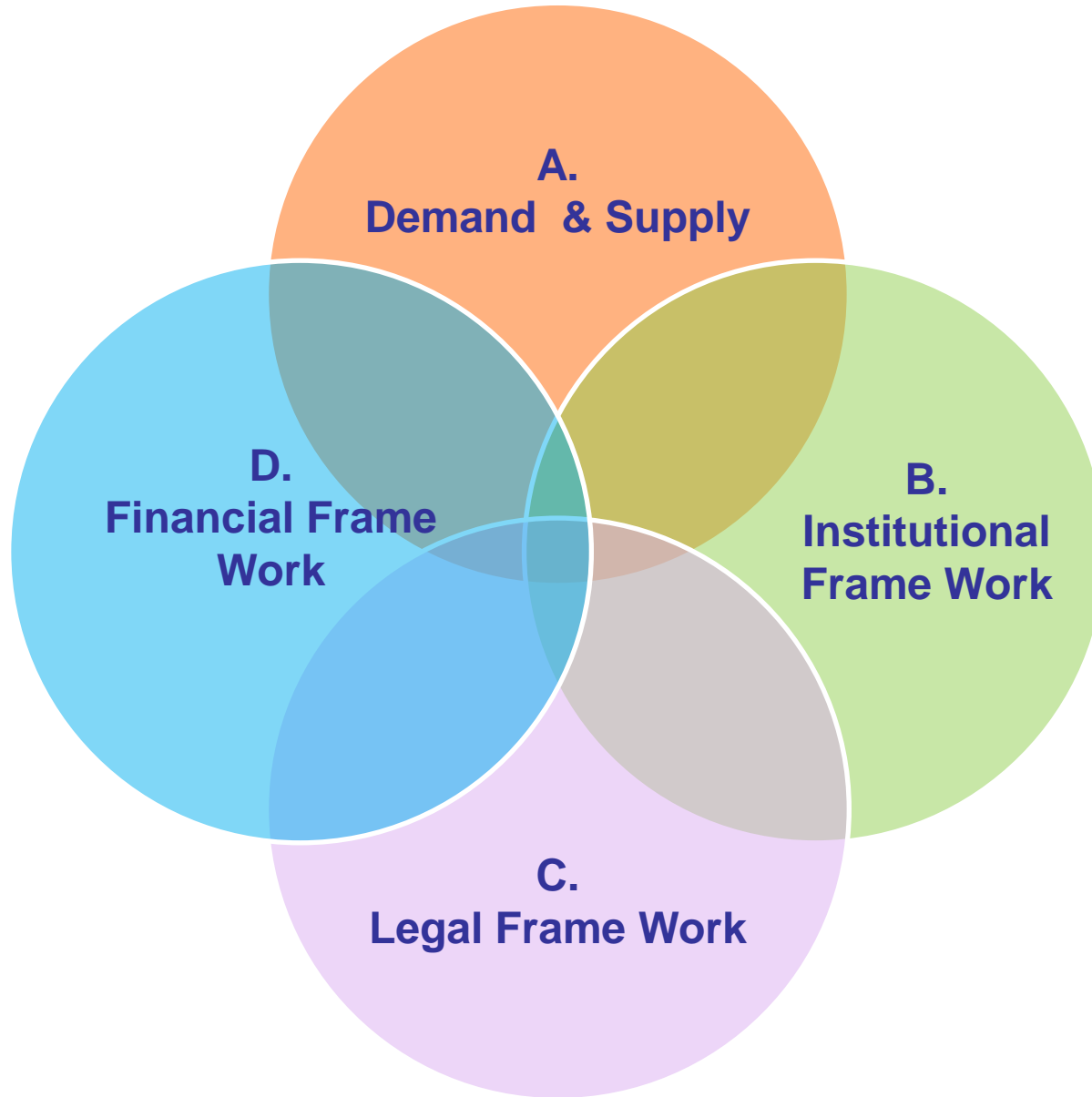




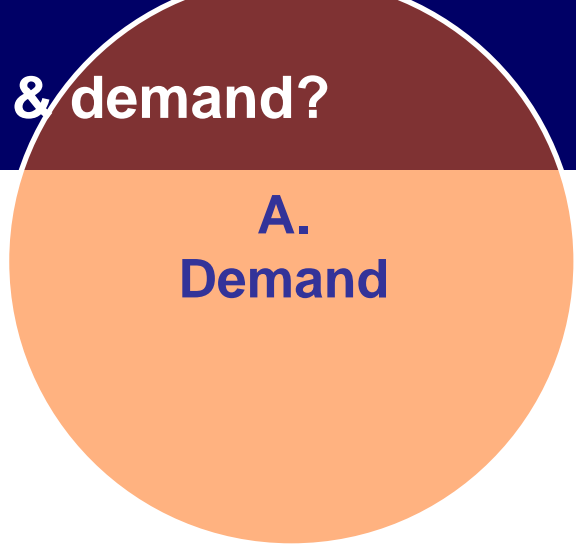
Scaling up decentralized wastewater treatment capacities

Andreas Schmidt
IWA Conference Nairobi 2013



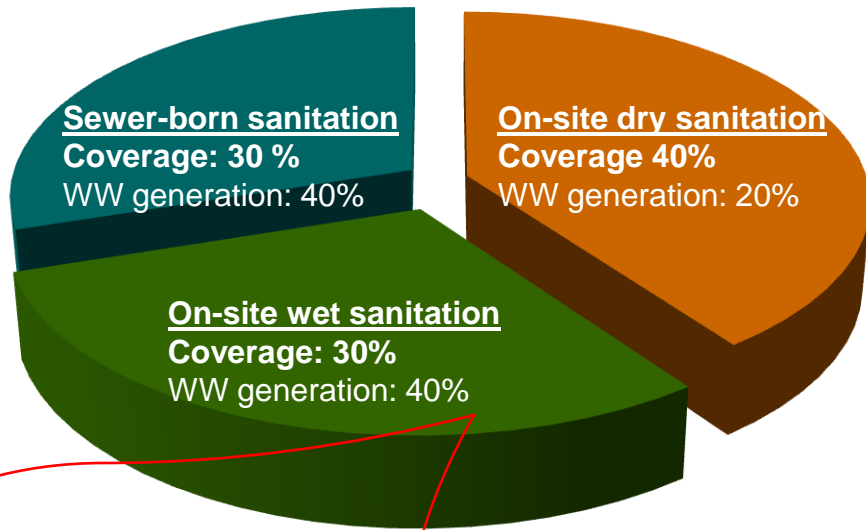


How to meet this challenge & demand?

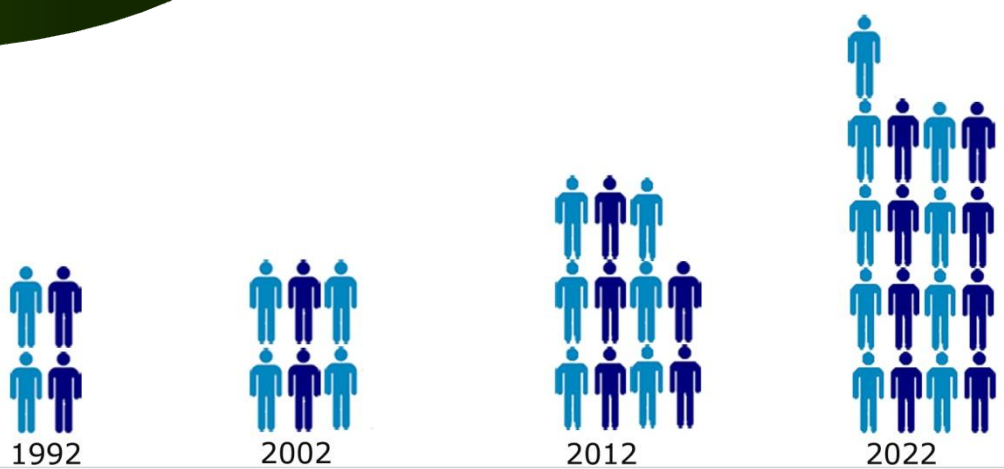


Case study Dar es Salaam 2022

Data estimated by BORDA



Decentralized wastewater treatment capacities needed for ca. 220,000 m³ per day



Year	1992	2002	2012	2022
Population in million	1,62	2,45	4,36	7,00
Total water demand (m ³ /d)	290,000	345,000	496,000	703,000



Develop supply chains

A. Supply

Build up a wastewater industry and green economy

Support and stimulate the private sector to supply and guarantee wastewater treatment capacity

The sector will respond with:

- ✓ Specialized companies
- ✓ Competitive mass products and supply chains
- ✓ Creative NEXUS solutions
- ✓ Franchise business models for marketing, installation and after-sales services
- ✓ Built-Operate-Transfer (BOT) models





B. Legal Frame Work

Appropriate regulation for effluent discharge!!!

COD 70 mg/l or phosphate 1 mg/l

Are not yet appropriate for developing countries and as long river are like this

What is needed:

- ✓ Phased effluent standards according to the discharged quantity and country specific socio-economic growth
- ✓ Regulation to integrate DEWATS in urban planning
- ✓ Standardize and certify low-tech wastewater systems and aim for a bigger impact
- ✓ Build the capacity of local authorities in effective law enforcement





What is needed?

- ✓ Authorities who can approve and certify decentralized solutions and technologies
- ✓ Institutions for quality bench marking and control, and sector training
- ✓ Operator and supplier associations

C. Institutional Frame Work





What to finance?

D. Financial Frame work

- ✓ Smart co-financing of infrastructure to mobilize local resources
- ✓ Institutional Frame work and capacity building
- ✓ Business development and marketing
- ✓ Public Private Partnerships (PPP)



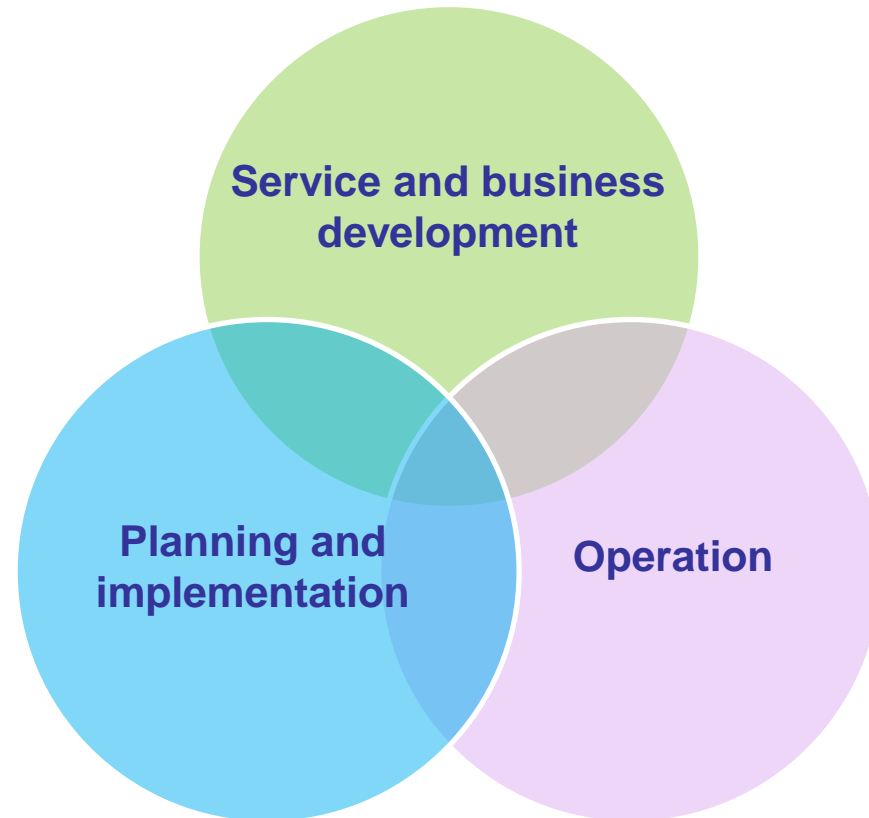
Sector development with focus on:

- ✓ **Specific capacity building programs for:**

Water utilities,

Private service provider

System provider



Thank you !!!



BORDA-Tanzania

Dar es Salaam
Tanzania

Fon: +255 681204991
Fax: +49 421 165 5323
eMail: dar@borda.de
Internet: www.borda-sadc.org