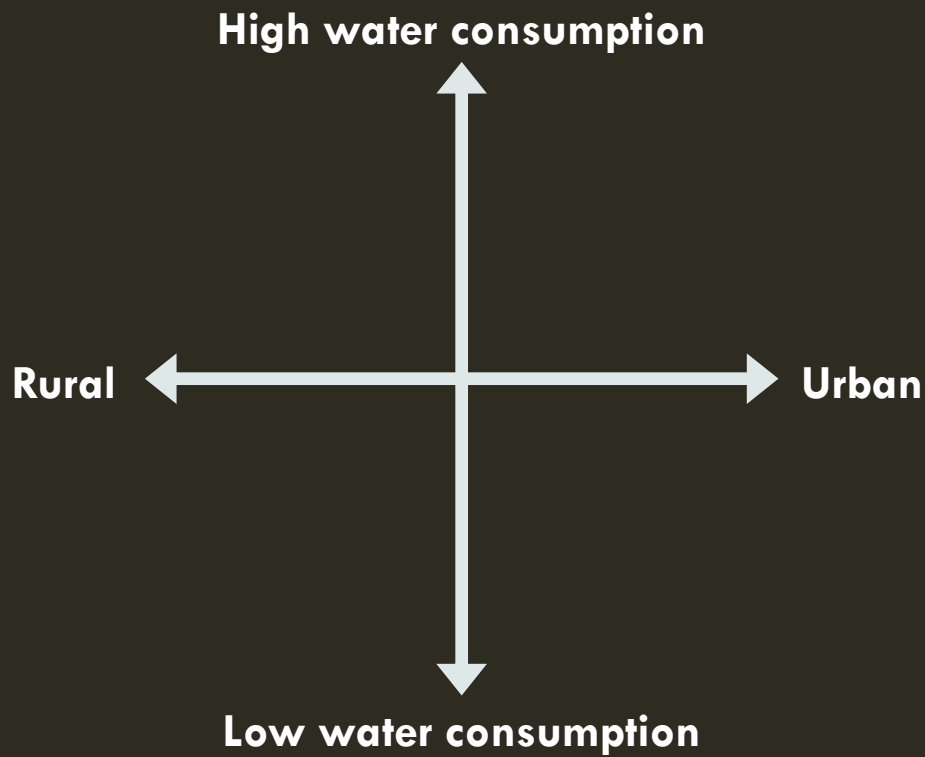


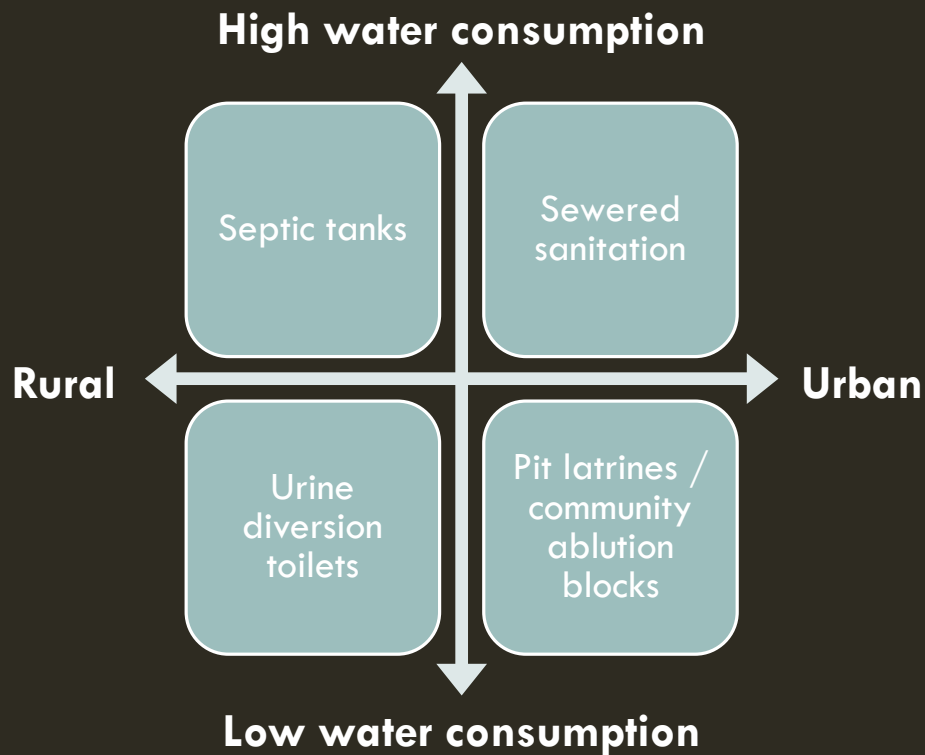
# TESTING SUSTAINABLE NON- SEWERED SANITATION PROTOTYPES IN DURBAN

Dr Rebecca Sindall,  
Operations Manager,  
Pollution Research Group,  
UKZN

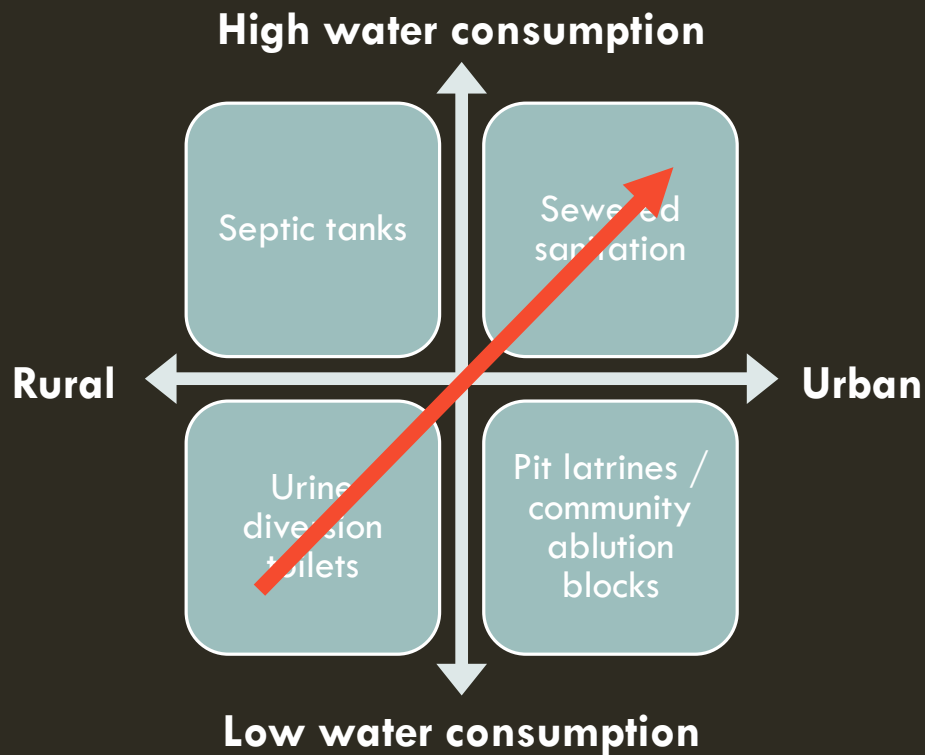
# APPROPRIATE TECHNOLOGY SELECTION



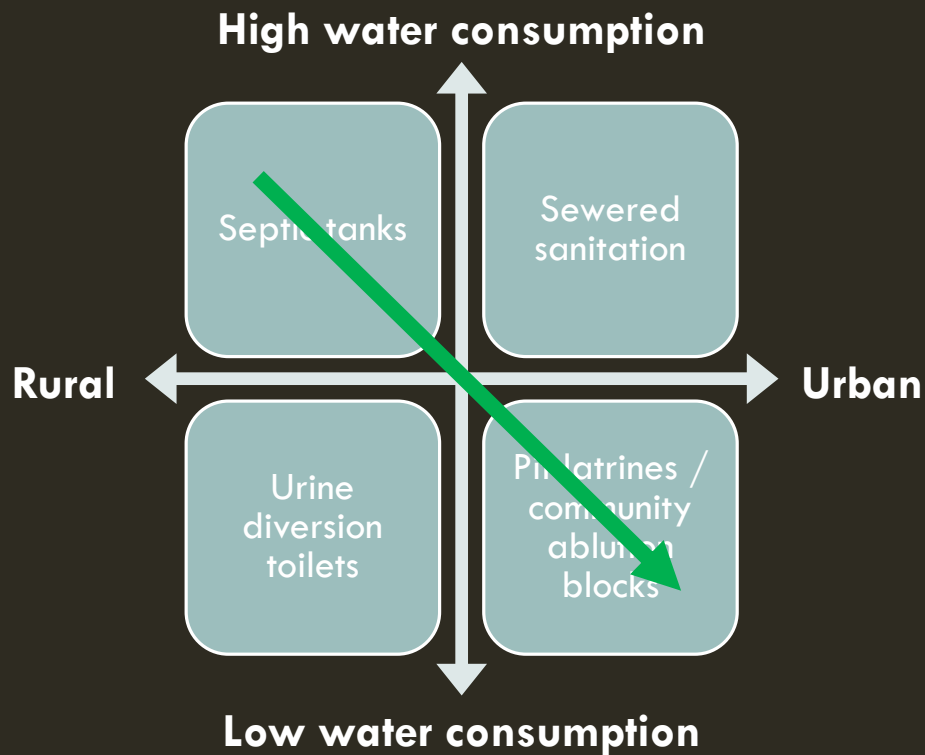
# APPROPRIATE TECHNOLOGY SELECTION



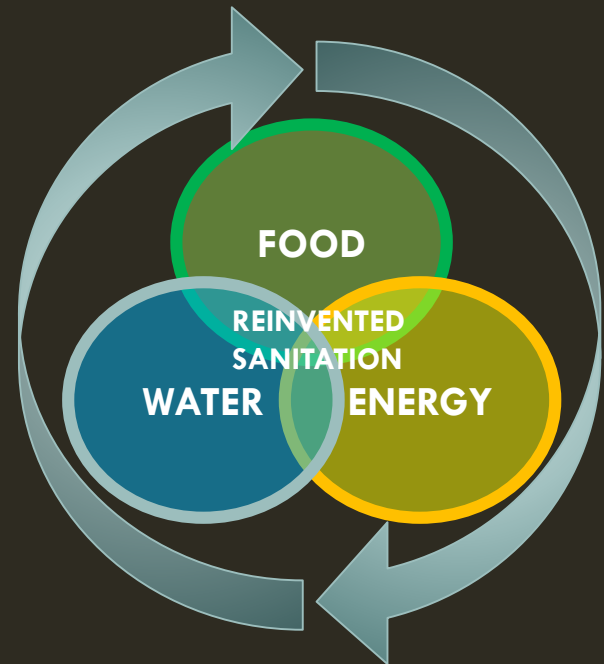
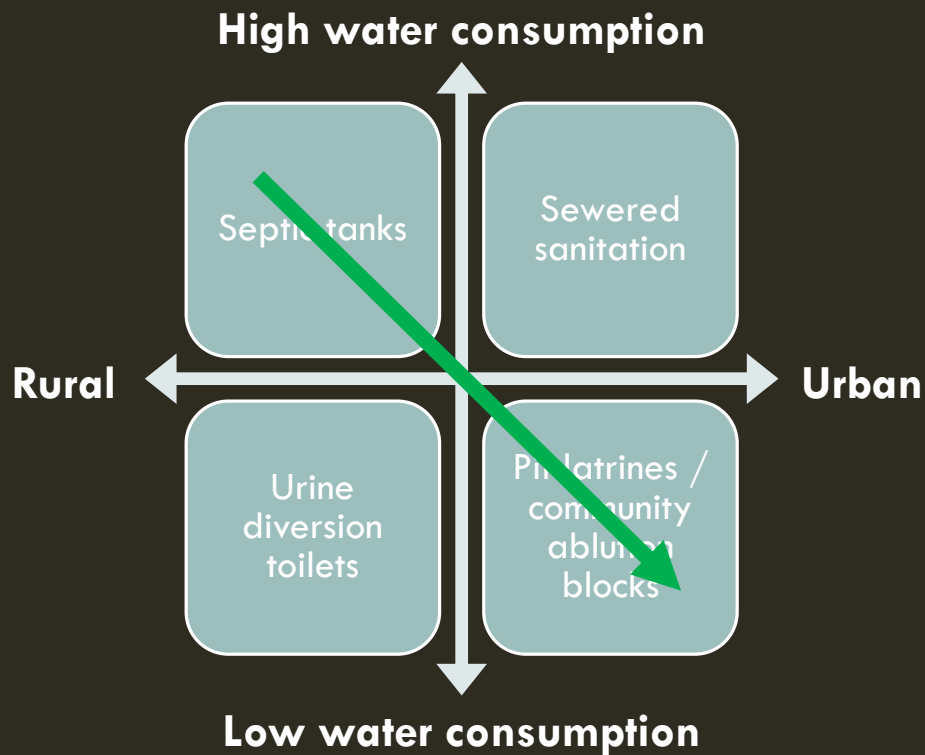
# APPROPRIATE TECHNOLOGY SELECTION



# APPROPRIATE TECHNOLOGY SELECTION



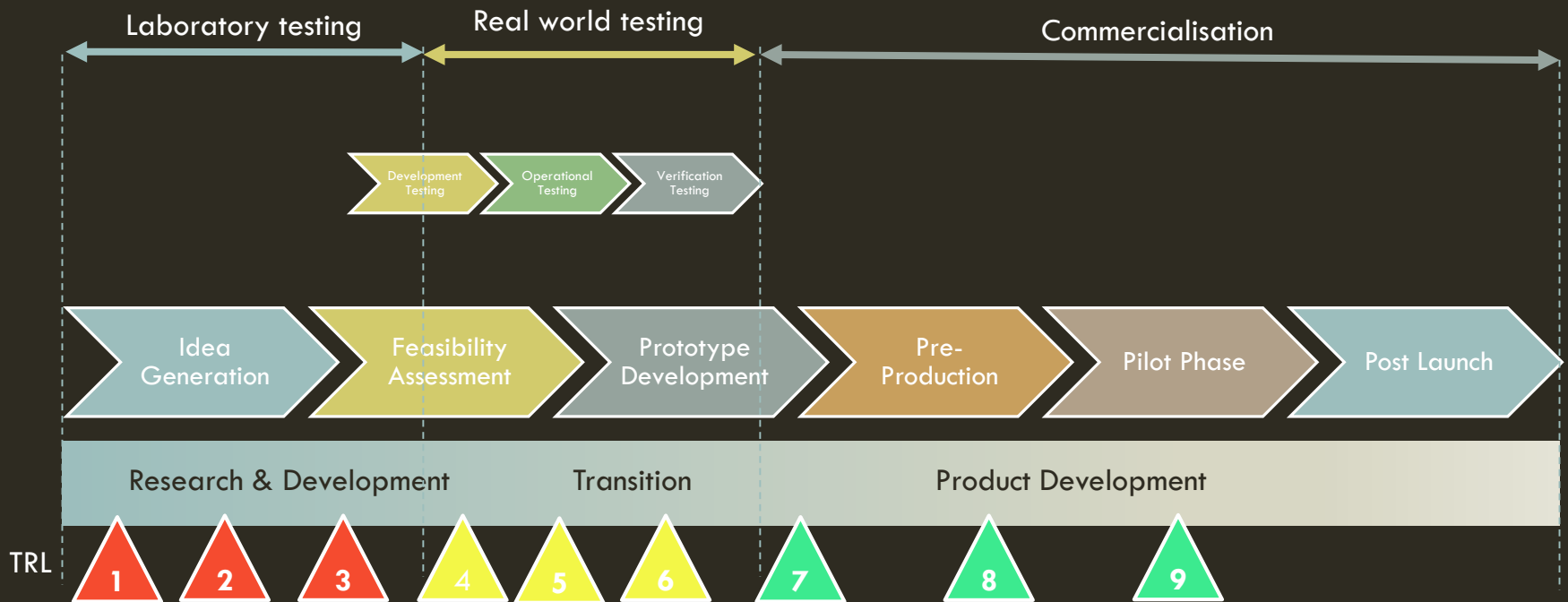
# APPROPRIATE TECHNOLOGY SELECTION



# THE REINVENTED TOILET



# DEVELOPMENT OF REINVENTED TOILETS





# TESTING REINVENTED TOILETS IN DURBAN



# COLLABORATORS

## Field Testing Platform

EWS

UKZN

Khanyisa  
Projects

Communities

Developers

BMGF

Maintenance  
support

Community  
engagement

Faecal sludge  
lab

Prototype  
engineers

Technical  
research

Social  
research

Import and  
logistics

Construction  
and design

Labour

Communal  
space

Feedback

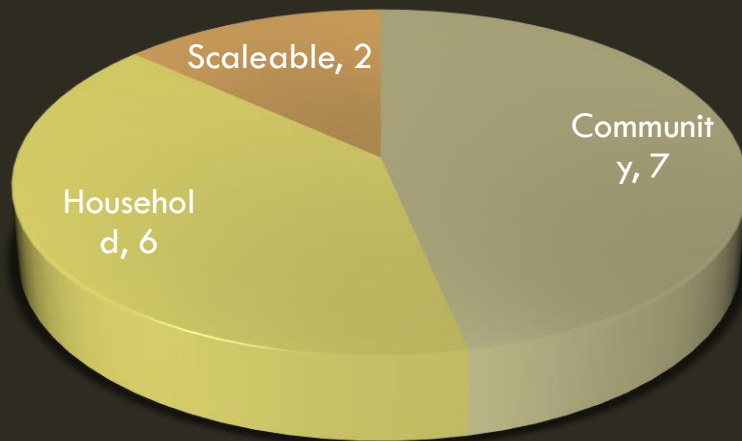
Prototypes

Funding

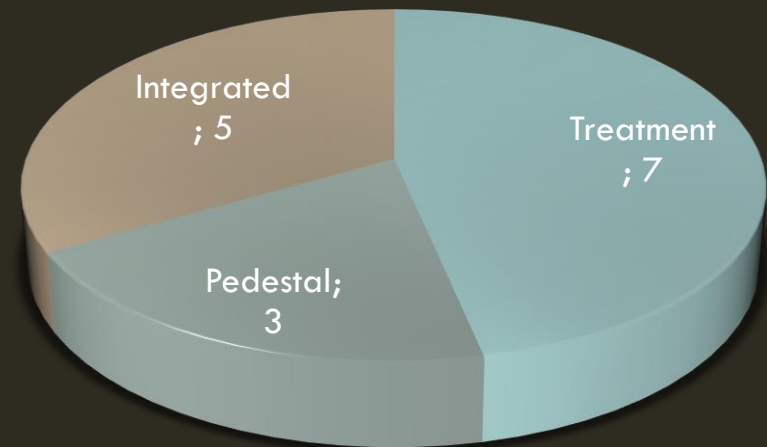
Vision

# 15 PROTOTYPES (2017-2020)

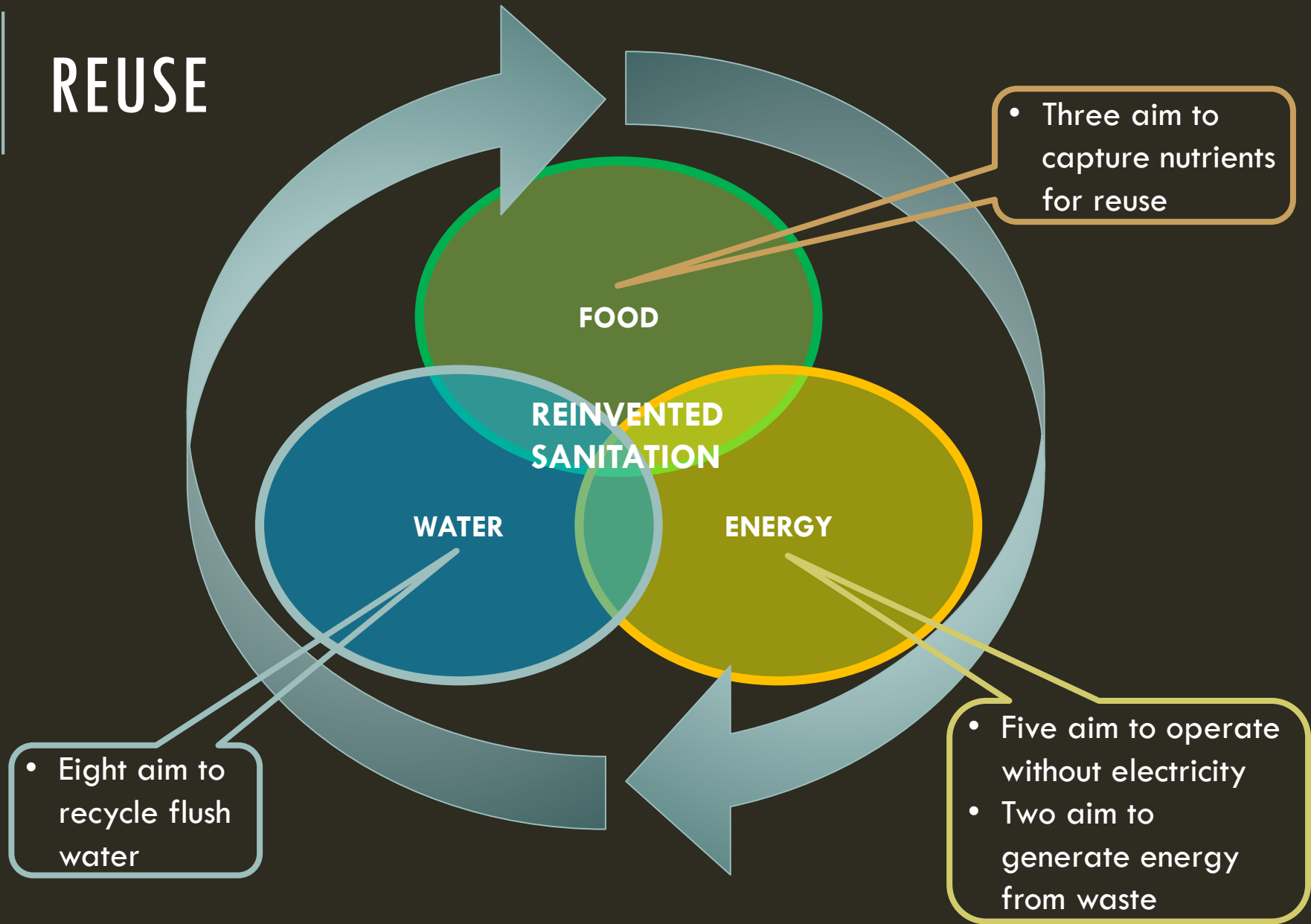
## Design location



## Design type



# REUSE



# VALUE TO ETHEKWINI

Early testing and demonstration of range of innovative technologies relevant to sanitation “gap” in eThekweni – informal settlements, peri-urban communities

Decentralised systems may offer economically viable sanitation solutions outside the water-borne edge

Try before you buy:

- Understand performance, operation & maintenance requirements and integration into existing municipal infrastructure
- Community feedback allows for sanitation solutions tailored to Durban

Reputation as a leader in innovative sanitation service provision

# EOOS URINE TRAP: A SUCCESS STORY

Flushing urine diversion toilet

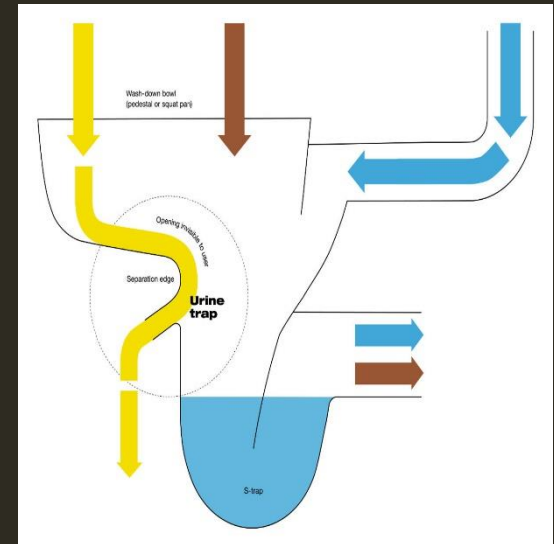
Low-volume flush: 1.6 L/3.4 L

Separates approx. 74 % urine

Reduces volume and nitrogen load going to  
WWTW

Potential use in upgrade of informal settlements in  
eThekweni

- Use DEWATS for local treatment and discharge to environment
- Only possible if urine is separated



# THANK YOU FOR LISTENING!

With thanks to:

Co-authors – Susan Mercer, Dr. Catherine Sutherland, Ruth Cottingham

Project partners – eThekweni Water and Sanitation, Development Studies – UKZN, Khanyisa Projects, technology developers (Cranfield University, Duke University, EAWAG, EcoSan, EOOS, Natural Synergies, Sedron Technologies, Swansea University, Three Bird Swan, University of South Florida, University of West of England), Water Research Commission

Funder – Bill & Melinda Gates Foundation