Mobile Faecal Sludge Stations in Urban FSM
A case of two pilots in Kampala City

Yvonne Lugali
Brenda Achiro, Cate. Z. Nimanya
Water For People
Water For People is partnering with GIZ since 2013

Project Objective: Increase access to sanitation services

Major challenge was the high cost of gulping, semi-mechanised pit emptying

Idea 1: Small Fixed Transfer Tank System - failed due to land challenges in Kampala

Idea 2: Mobile Sludge Transfer Stations
Transfer Station in FSM

- Containment or capture
- Small trucks
- Gulpers
- Mobile transfer tanks
- Large cesspool trucks
- Treatment and Reuse

Move empty
Approach/ Methodology

- Feasibility study
- Design process
- Fabrication process
- Pilot testing
- Continuous modifications
Feasibility Study

• Environmental and Social Impact Assessment (ESIA) carried out on mobile transfer tank concept
• Remedies from ESIA incorporated into design and operation guidelines
• Technical Applicability Framework conducted to ascertain technical and economic viability in informal settlements
Design Process

- Two 5m³ grounded cesspool emptier tanks were modified
- Design drafted using AutoCAD
- Design to accommodate semi-mechanical gulper operators
- Loading and offloading systems manual operation
Fabrication Process

Hydraulic Systems

Manual Loading Trough

Tank Mounted and Fixed

Chasis: Walking Beam axle; tire size 12.5/80; design strength of 10 tonnes
Pilot Testing Phase

• Hauled by tractor to target areas
• Gulpers empty into Transfer Tank and hauled to treatment plant
• Prior sensitization in communities
• Operational costs of emptying per 200L barrel reduce significantly - USD 7.5 to USD 5
• Currently in operation and business model focused on having TT managed by Gulpers Association
Pilot Testing Phase
Current Business Model

- Gulper operator sources out clients who need toilets emptied
- Requests for Transfer Tank from Water For people
- Gulper covers operational costs of tractor fuel, driver labor, dumping charges and any other fines in case of spillage
- New access to operator and equipment handwashing water
Continuous Modification

• Operational challenges realized in pilot phase
• Conversion of the sludge loading system from a manual winch to an automatic 1tonne 24V DC powered winch system
• Water storage tanks, rubber stoppers and sludge guides fixed- sludge spillage and access to operator and equipment handwashing water
Challenges

- Unwillingness by gulpers to lower the pit emptying charges
- Only two tanks are available – inadequate for the many informal settlements
- High initial capital investment and tractor repair and maintenance costs
Way Forward

• Further field tests and adjustments in the operation
• Increase the number of mobile sludge tanks
• New Business Model: Transfer Tank managed by Gulper Association who will earn revenue from its use
Thank you for your attention