



GAMA
SANITATION AND
WATER PROJECT

Closing the Loop: Enhancing the Bio-Digester Toilet Service Chain Post 50,000 Installations.

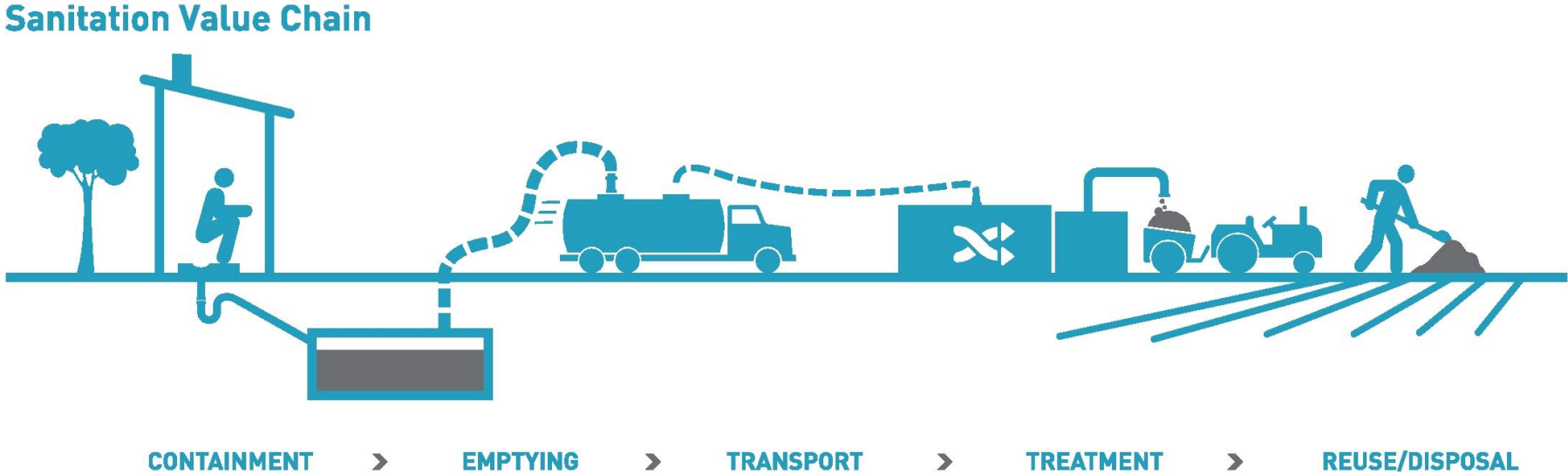




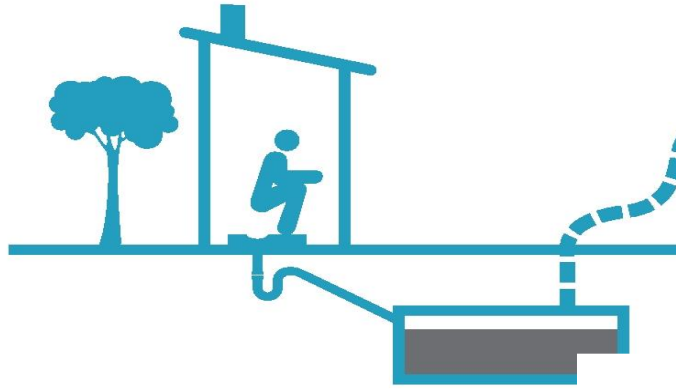
Outline of Presentation

- Current service/value chain of bio-digester toilet technology
- Vision for value chain and on-going efforts to materialize the vision

The Sanitation Service Chain

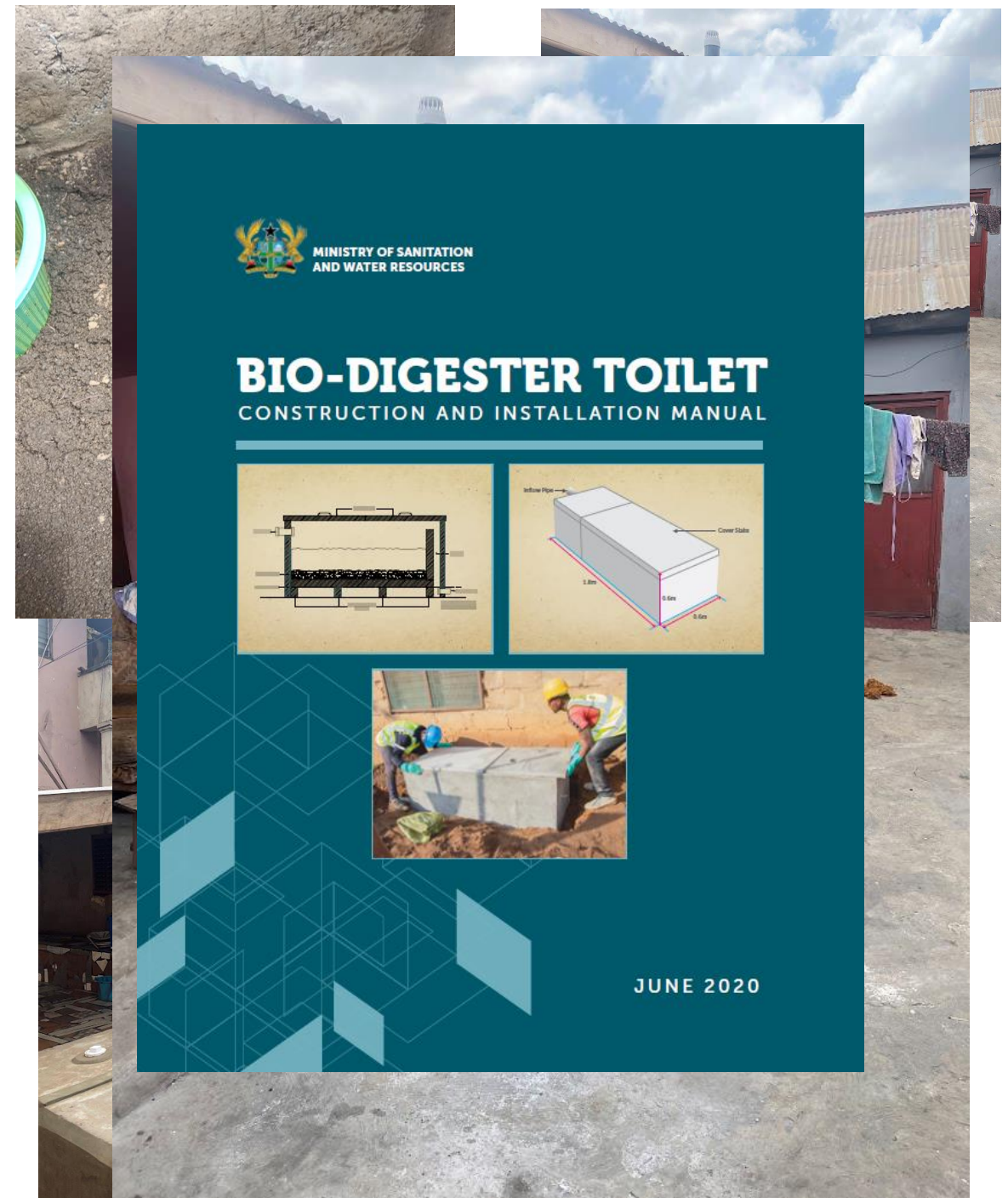


Sanitation Value Chain

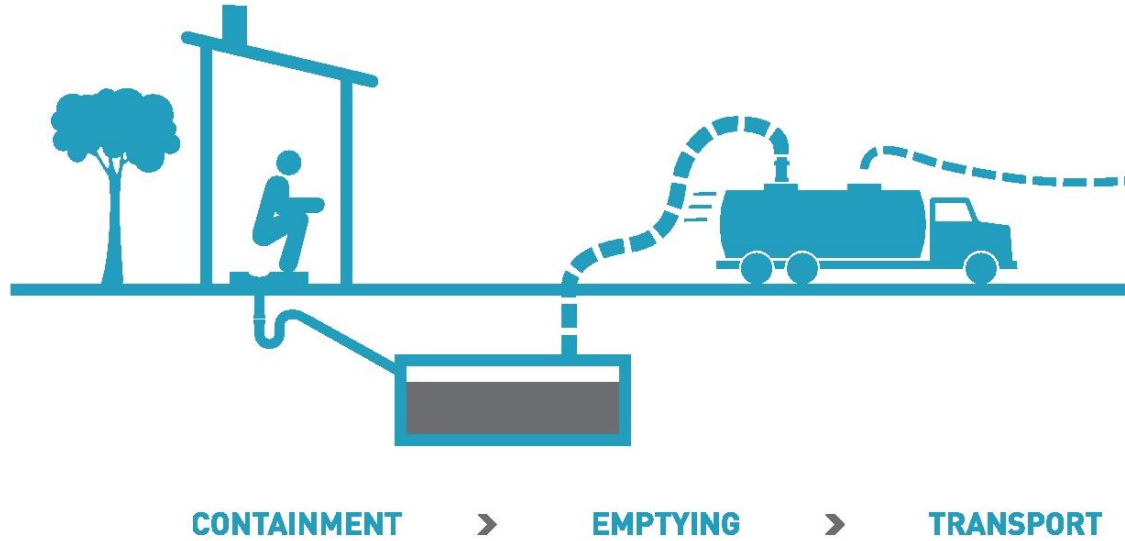


CONTAINMENT >

- 50,000+ bio-digester units in GAMA over 9 years
- Faecal matter is safely contained within bio-digester units
- 3x less expensive than a septic tank
- Built by SPIs, private contractors and artisans
- Compatible with Micro-flush and full flush configurations
- Low emptying frequency and produces bio-solids when properly used and sludge when poorly used
- Climate friendly – negligible methane emission, no energy input, soil amendment, carbon sequestration
- Construction and installation manual developed
- Continuous study and improvement of the technology



Sanitation Value Chain



- Emptying and transportation services offered by SPIs, private contractors and informal artisans
- Emptying is mostly manual except for flooded digesters
- Informal with varying standards and cost for emptying and transportation services (GHs200 – GHs500)
- Manual on emptying of biodigesters toilets developed

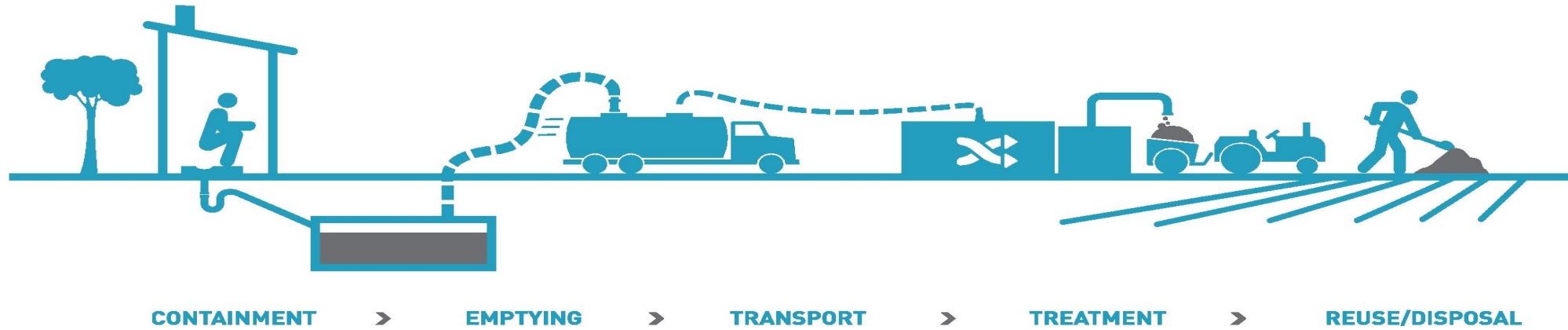


MANUAL FOR EMPTYING BIODIGESTER TOILETS



MAY 2023

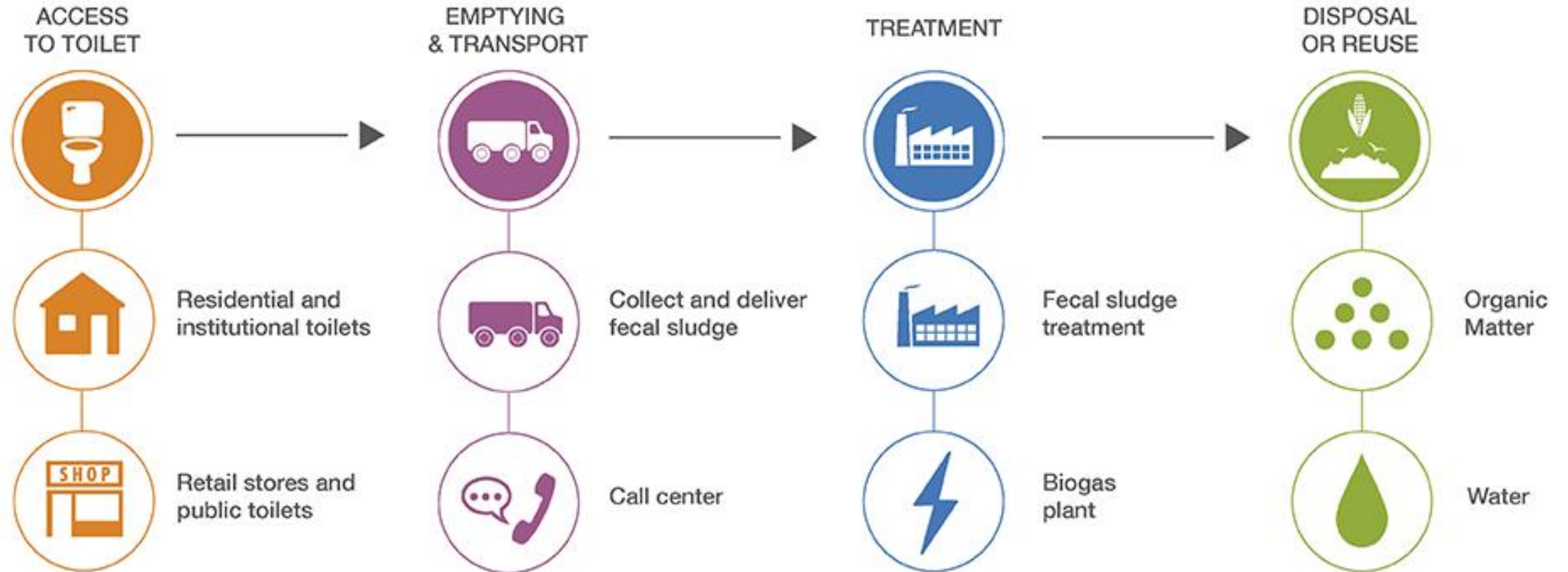
Sanitation Value Chain



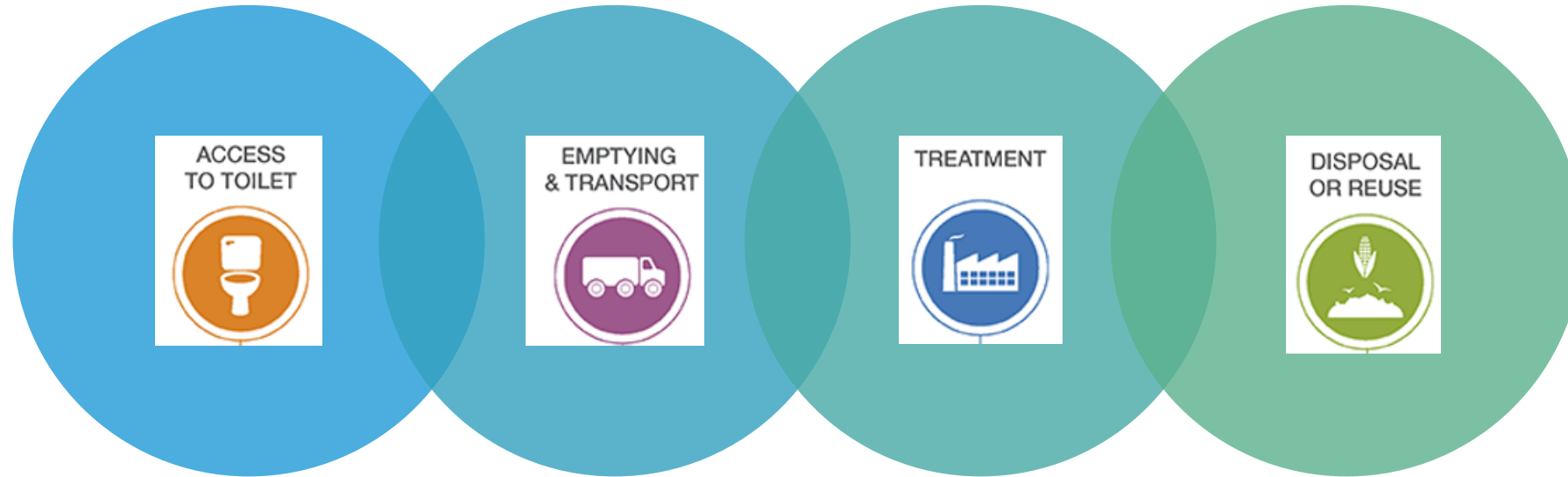
- Bio-solids from bio-digesters have reuse potential as soil amendment and require minimal treatment
- Sludge (from poorly used bio-digesters) also have reuse potential but require further treatment
- No known small- or large-scale adoption of bio-solids for reuse as soil amendment
- No known treatment facility for processing bio-solids and sludge in GAMA.



Vision: Service Chain of Bio-Digester Toilet Technology



Partnership with Private Sector to Materialize Value Chain Vision



MMA's, Service Providers, NGOs, Development Partners

ICESSPOOL, Clean Team, Private Service Providers,

SafiSana Ghana, Lavender Hill Treatment Plant???

ACARP??????

Farmers, Institutions, homes,

THANK YOU

QUESTIONS?



GAMA Sanitation and Water Project



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