SASTEP – The EarthAuger

Lessons learned from the EarthAuger demonstration in the South African Sanitation Technology Demonstration Programme

20 February 2017
SASTEP – Aims

- Determine the performance and acceptability of new sanitation technologies in South Africa, through demonstration.
- Support commercialisation and uptake of technologies appropriate for South Africa.
- Bilateral partnership between Gates & DST
- Implementing agent: WRC
SASTEP – Scope

Deliverable Clusters:

- Selection of technologies
- Selection of municipalities & demonstration sites
- Implementation
- Demonstration
- Dissemination
- Localisation Support
Site Selection

- Chris Hani District Municipality

- Ida, Eastern Cape
  - Rural
  - Isolated
  - Low income
  - Agricultural community
  - No service delivery
Site Selection
Contractor Selection

- Tender Process

- Awarded: Kukho Consulting Engineers
  - Local BEE company
  - First on-site sanitation project
  - First ‘large’ project
  - Capacitation required
Superstructure Supplier Selection

Prefabricated
- Available immediately
- Available in larger sizes
- More costly
- Factory built
- Community assembled

Community Built
- Availability uncertain
- Available in std. sizes
- Less costly
- Community built
- Community assembled
Superstructure Design
Superstructure Design
Social Facilitation

- Partnered with Chris Hani DM (local government)
  - ISD Specialists
- Facilitation during design phase
- ‘Illusion’ of choice
- Intensive training and follow-ups
- Contracted items with contractors
  - Community meetings
  - Local employment
  - Conduct
Social Facilitation
Implementation

Faecal Sludge Management
- Assembly
- Construction
- Social Facilitation
- Project Management
- Transportation
- Security
Implementation
Implementation
Implementation
Implementation
Implementation

200 units installed
Implementation

Implementation Environment:

- Households: 198
  - Standalone: 154
  - Clustered: 41
  - Communal: 3

- Schools: 2
User Behaviour

Perceptions and Location:

- Initially 30m + from household
  - Some over 150m
- Typically next to old VIP
  - Initially 30m +
  - Some over 150m
  - Typically next to old VIP
- Gradual acceptance to locating units closer
- Willingness to relocate unit post-installation
User Behaviour

Compost (Faecal Sludge) Management:
- Subsistance farming (Own use)
- Sold to farmers
- Given to farmers
- Sold to community
- “I thought that was your job...”
User Behaviour – Ownership

- Painting/personalisation of superstructure
- Because “...it can’t be stolen.”
- “This one is mine.”
- Two recorded cases
## Project Cost per EarthAuger

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
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<tbody>
<tr>
<td>EarthAuger</td>
<td>$150</td>
</tr>
<tr>
<td>Importing + Forwarding</td>
<td>$77</td>
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<tr>
<td>Superstructure</td>
<td>$400</td>
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<tr>
<td>Assembly</td>
<td>$0</td>
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<tr>
<td>Installation</td>
<td>$352</td>
</tr>
<tr>
<td>Training</td>
<td>$14</td>
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<td><strong>Total</strong></td>
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Takeaways

- Larger superstructures = greater satisfaction
- Incorporation of handwashing = 👍
- Urinals aided urine diversion
- Ownership sparked through contextually appropriate designs that make sense.
- Localisation saw quick uptake
Takeaways

- Continuous social facilitation from the start
  - Strong plan with specialised ISD partner
  - Community involved in decision on technology
  - Transparent structure for coms with team
  - Contractor – contracted obligations
  - Local employment
With Thanks!

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Partners:

CHRIS HANI DISTRICT MUNICIPALITY
SUSTAINING GROWTH THROUGH OUR PEOPLE

KCE CONSULTING ENGINEERS

TLIU TECHNOLOGY LOCALIZATION IMPLEMENTATION UNIT

ROCLA
OUR DIFFERENCE IS CONCRETE