Assessing the Effectiveness of Container-Based Sanitation (CBS) in Cap Haitien, Haiti

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Conventional Approaches Often Inadequate

Flying Toilets

Open Defecation
Implementing CBS Service in Cap Haitien, Haiti
Shada

Illegal Settlement

~Sea Level

No roads
No sewer
No piped water system

3 Public Toilets
Public Toilets:

Free to use

Open 5:00-22:00

Paid Attendant
Evaluating the Service

135 toilets

How much waste is produced, where, when?
- Baseline/Endline Survey
- Public Toilet Observation

How much are we capturing?
- Operations tracking

At what cost?
- Expenses tracking
\[
\dot{M}_{\text{feces,in}} = \frac{\sum M_{\text{Total Solids,in}} - \sum M_{\text{Cover Material,out}}}{t_{\text{collect}}}
\]
Public Toilets:

15 Days:

~1364 users/day

163 g/defecation
Where, When is the Waste Produced?

Baseline
n = 276

Day
- Container-Based: 51%
- Public: 29%
- Pit: 32%
- Flying Toilet: 10%
- Open defecation: 10%
- Other: 0%

Night
- Container-Based: 28%
- Public: 31%
- Pit: 28%
- Flying Toilet: 10%
- Open defecation: 10%
- Other: 0%

Where, When is the Waste Produced?
HH Service Capture Rates

Managed Feces:
650 kg/week

Pilot Costs:
$0.96/kg (household)
$0.66/kg (public)

vs.

$0.14-$0.46/kg sewerage