



Manual Pit Emptiers Freetown, Sierra Leone

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Structure of presentation

1. Context – Freetown
2. Context – Manual and Mechanical emptiers
3. Pilots and results
4. Lessons learnt
5. Next steps and refined approach



THE CONTEXT

Freetown

1.2 million inhabitants

90% are served by on-site sanitation

High levels of solid waste in pits

Steep topography and narrow roads cause poor accessibility for trucks





THE CONTEXT

Freetown

90% of population require FSM services

At least 100,000 m³ of raw faecal sludge is produced each year

10% is disposed of here
(the official disposal site!)

The rest (90%) is dumped illegally
in and around Freetown

Manual Pit Emptiers (MPEs)

- Serve about 36% of Freetown
- Work informally
- Dump FS locally, illegally
- Poor regulation
- Dangerous work environment, stigmatisation and substance abuse
- Limited skills/education or interest to improve, expand or legitimise their business

Photo credit:
Georges Mikhael

Mechanical Emptiers (SMEs)

- Most are unregistered & unregulated
- 63% of population report using vacuum trucks
- 8 vacuum trucks operational
- Estimated to cover only 15-20% of market
- Poor access to financing for investment
- Potential annual revenue \$4m



Initial Pilots

1. Improve working conditions and efficiency and reduce illegal dumping: **2012-2015**
2. Testing of improved manual emptying equipment: **2012-2015 and 2016**
3. Provision of transfer stations (temporary FS storage): **2012**

Pilot 1 - Improve working conditions, efficiency, reduce illegal dumping (2012-2015)

Description:

- Support of 5 – 10 MPE groups
- Trainings, capacity building
- Provision of protective gear
- Provision of specialist equipment: barrels and tricycle for transport to disposal site

Progress / Result:

- Trainings had little effect - practices didn't change
- Protective gear was not much used, disappeared
- Transport equipment was not used at all



Pilot 2 – Testing of improved manual emptying equipment (2012-2015)

DIAPHRAGM PUMP

Description:

- Reproduced locally in Freetown
- Tested from 2012 to 2015 in various settings

Progress / Result:

- Not suitable for thick sludge (pit latrines) or solid waste content
- More time-consuming than (unhygienic) bucket method
- Not useful for MPE groups to be used regularly



Diaphragm pump in use

Pilot 2 – Testing of improved manual emptying equipment (2016)

GULPER2 & SLUDGE DIGGER

Description:

- Selected after detailed desk review (early 2016), reproduced locally
- Field testing finished in Dec 2016

Progress / Result:

- Suitability of equipment depends on conditions (sludge type, solid content, depth of pit)
- Both types of equipment can improve working conditions of MPEs
- Plan to make both equipment available to MPEs (through Freetown City Council)

Sludge digger in use



Pilot 3 – Provision of transfer stations (2012)

Description:

- 3 transfer stations were constructed in 2012
- Different designs and management models

Progress / Result:

Never went operational due to:

- Political resistance
- Lack of legal frameworks
- Lack of community acceptance
- Disagreement about proposed management structures



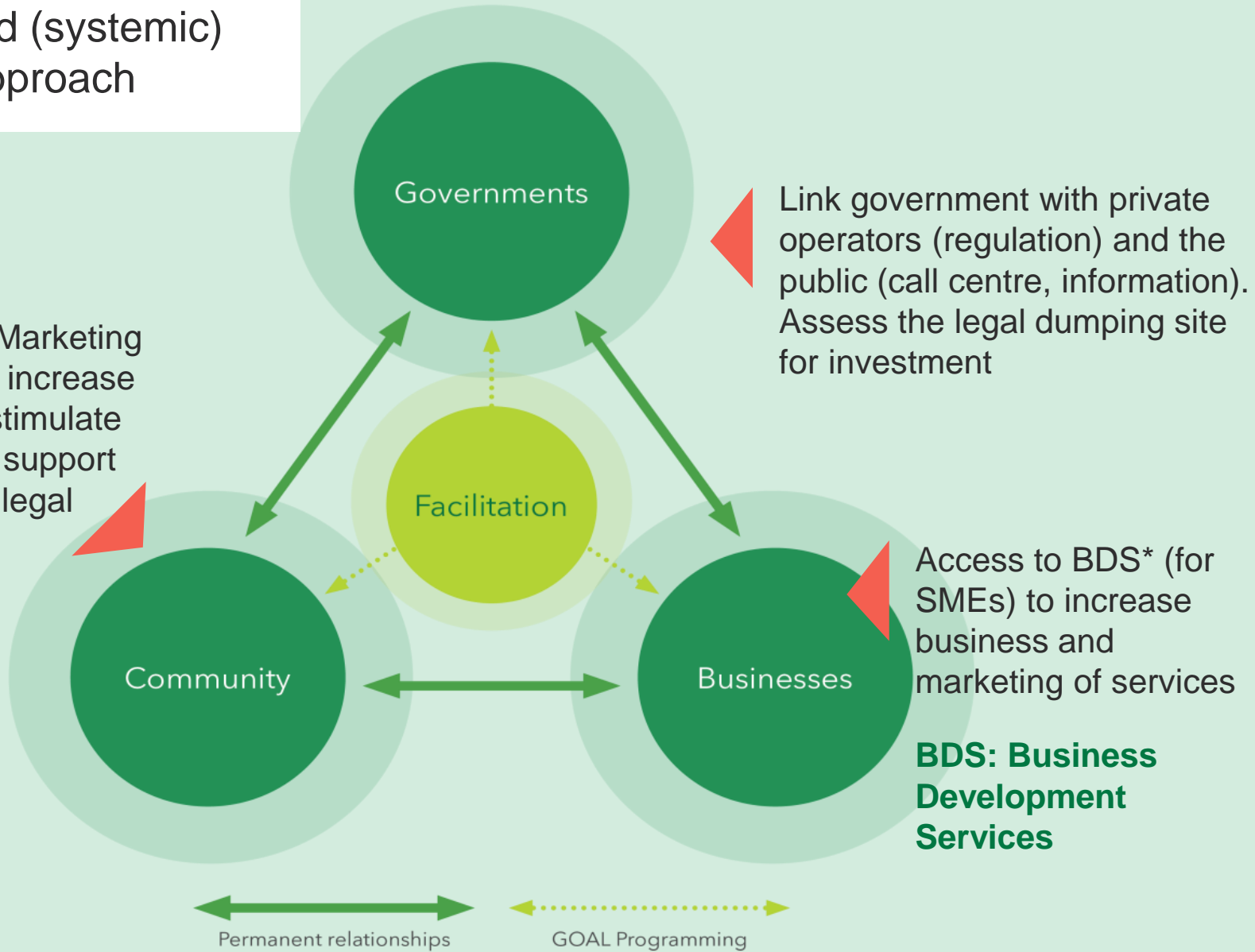
Next Steps

- **Tailor support to MPEs** in the short term to improve working conditions while being aware that this is not sustainable
- Shift focus from MPEs to **business support for SMEs** (vacuum trucks) where there is a business model and demand for FSM (73% of Freetown households are accessible to trucks!)
- Work with one SME to operate (at least 1) **transfer station**
- **Link MPEs to SMEs** to integrate their services (manual labour) into SME businesses with a focus on inaccessible pits
- Work with Freetown City Council to **develop enabling environment** (governance, regulation, monitoring, business friendly)
- Communication/Marketing strategy aimed at **generating demand** amongst target 'customers' – middle/upper class and raising awareness of services amongst broader Freetown residents.



Refined (systemic) approach

Fund Social Marketing Campaign to increase knowledge, stimulate demand and support reporting of illegal dumping



BDS: Business Development Services