Governance of Decentralized Sanitation

Emptying, Transportation and Disposal of Feacal Sludge in the Slums of Kampala, Uganda

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Country: The Netherlands
<table>
<thead>
<tr>
<th>Introduction (Section 1)</th>
<th>Modes of operation (Section 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographical overview/location</td>
<td>Operation of the public institution</td>
</tr>
<tr>
<td>An overview of the situation in slums</td>
<td>Operation of the private institutions</td>
</tr>
<tr>
<td>Overall learning objective</td>
<td>Highlight on Disposal of sludge</td>
</tr>
<tr>
<td>Description of existing formal and informal service providers</td>
<td>Operation of the manual emptiers</td>
</tr>
</tbody>
</table>

Institutional and technical challenges- (Section 3)

| Challenges faced by the public institution |
| Challenges faced by the private institutions |
| Challenges faced by the manual emptiers |

Sections 2 & 3 will be followed by a question(s), plus an overall assignment
Section 1: Introduction - Geographical Overview/location

Source: http://www.mcgill.ca/mchg/pastproject/edible-landscape/kampala/info/
Section 1: Introduction - An overview of the situation in slums

Key concerns:

- **Hygiene**
- **Safety**
- **Accessibility**
- **Privacy**

Nature of housing & facilities used

Raised Pit latrines

Filled up facility & construction of a new one

Source: Murungi, C., 2011, 'MSc Thesis - Leading practices in the provision of water and sanitation services to the urban poor in Kampala', UNESCO-IHE.
Section 1: Introduction- An overview of the situation in slums

Source: Murungi, C., 2011, ‘MSc Thesis- Leading practices in the provision of water and sanitation services to the urban poor in Kampala’, UNESCO-IHE.
Section 1: Introduction - Overall learning objectives and existing service providers

Overall learning Objectives

i. To understand the operations of the public and small-scale private service providers in the management of faecal sludge in informal settlements and the associated managerial and technical challenges

ii. To build-up and or enhance skills in the development of strategies to address context specific institutional and technical challenges

Understanding the processes of operation and management challenges of:

1. Public service provider - KCCA
2. Private svc providers: PEAU & the 2000 Trinity Agencies Ltd
3. Manual emptiers
Section 1: Introduction- Brief description of existing service providers

- Kampala City Council Authority

• It is the public institution authorized to provide sanitation services in Kampala.
• It is responsible for sanitation in public schools and public places such as markets. However, it is also operational in slums.
• It enforces the Public Health Act and other bylaws related to environmental Health within the city.
• It operates in five Divisions that comprise Kampala- (Kawempe, Nakawa, Lubaga, Kampala Central and Makindye).
• The Divisions are managed by the Division Urban Councils.
• Each Division is comprised of a number of parishes and each parish, consists of a given number of zones.

- Private Emptiers Association Uganda Limited

• PEAU started in Nov. 1999, with four (4) members and four (4) cesspool trucks
• Gradually, other member joined and at the time of research (2012), it had eighty-one (81) members- (cesspool owners, cesspool operators, support staff- turn men and brokers).
• In 2012, the Association had forty-five (45) trucks, all owned by individual businessmen.
Section 1: Introduction- Brief description of existing service providers

- The PEAU established rules that cesspool truck owners, operators and support staff have to follow *(e.g. payment of membership fees, emphasis on proper sludge disposal and charging clients as per the set fees by the association)*
- The Association members operate within and outside Kampala

The 2000 Trinity Agencies Limited

- This is another category of private service provider
- The company registered in 2000
- At the time of research, it was composed of three members who contributed to the purchase of one cesspool truck.
- More operational in slums given its location- In Bwaise slum, Kawempe Division.

**Manual Emptiers**

- These are informal service providers (usually people from within the communities)
- In most cases dispose off sludge in an unhygienic way (as will be discussed in the mode of operation section).
Section 2: Mode of operation – Kampala City Council Authority (KCCA)

KCCA

- Kawempe
- Nakawa
- Lubaga
- K. Central
- Makindye

A person goes to the KCCA ofc-
After 3 requests- Cesspool truck is provided

Weekly basis -for @ Division

In cases of emergency

DDA- on individual basis

C. leader goes to KCCA ofc- health inspectors- assess & identify facilities
Reasonable no. –cesspool truck is provided

@ Division- spec. No. of parishes within @parish-zones, (E.g., Kawempe is composed of 22 parishes)

- A person goes to the KCCA ofc-
- After 3 requests- Cesspool truck is provided

C. leader goes to KCCA ofc-
- health inspectors- assess & identify facilities
- Reasonable no. –cesspool truck is provided

Officially, KCCA charges **UGX 50,000 (USD 19.81) per trip**
### Section 2: Mode of operation – KCCA: Breakdown of emptying charges

<table>
<thead>
<tr>
<th>Status of the facility (if; )</th>
<th>Emptying Costs</th>
<th>Factors Considered</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UGX</td>
<td>USD</td>
<td>UGX</td>
</tr>
<tr>
<td>There is no need to connect an extra vacuum pipe and or, the facility has no substances like rugs, bottles, glasses, etc.</td>
<td>50,000</td>
<td>19.81</td>
<td>20,000</td>
</tr>
<tr>
<td>There is need to connect an extra pipe and or the facility has substances like rugs, bottles, glasses, etc- the turn-man has to remove before emptying.</td>
<td>60,000-70,000</td>
<td>23.77 - 27.73</td>
<td>20,000</td>
</tr>
</tbody>
</table>
Section 2: Mode of operation – Private Emptiers Association Uganda (PEAU)

- Services are provided following requests by clients through the cesspool operators/owners or through a bloker.

- Before the cesspool operator sets off to provide the service, certain aspects are inquired:
  - Distance (5km or beyond)
  - The nature of the facility (septic tanks, lined pit latrines or traditional pit latrines)
  - Estimated amount of sludge
  - Possibility of having materials in the facility
  - Expected number of trips
  - Accessibility
  - Capacity of the truck to be used

Guide the operator to determine the amount of money to be charged

- In determining the cost, besides the above factors, the operator considers:
  - Amount of fuel to be used
  - Disposal costs
  - Turn man fee
  - Operators benefits
  - Profit of the owner of the truck

Upon agreement with the client, the operator sets off to empty the facility
Section 2: Mode of operation – Private Emptiers Association Uganda (PEAU)

- PEAU charges between **UGX 60,000 (23.77 USD)** and **UGX 150,000 (59.42 USD)** per trip within a distance of **5 km.**

- To remove materials present in the sludge- an additional 'motivation fee' of between **UGX 10,000 (3.96 USD)** to **UGX 30,000 (11.88 USD)**

- Ideally, emptying fees are based on distance & capacity of the cesspool truck

**Pricing may increase** - need to connect an extra pipe- **UGX 15,000 (USD 5.94)**

<table>
<thead>
<tr>
<th>Capacity of the truck (cubic metres)</th>
<th>Approximated costs (per trip)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.8</td>
<td>UGX 60,000, USD 23.77</td>
</tr>
<tr>
<td>2.0-2.7</td>
<td>UGX 80,000, USD 31.69</td>
</tr>
<tr>
<td>3.0-4.0</td>
<td>UGX 100,000, USD 39.61</td>
</tr>
<tr>
<td>5.0-8.0</td>
<td>UGX 130,000, USD 51.49</td>
</tr>
<tr>
<td>9.0-10</td>
<td>UGX 150,000, USD 59.42</td>
</tr>
</tbody>
</table>

Considering different sizes of cesspool trucks, the fees as shown- are charged
### Section 2: Mode of operation – PEAU: Breakdown of emptying charges

<table>
<thead>
<tr>
<th>Capacity of the truck (m³)</th>
<th>Emptying Costs</th>
<th>Factors considered to determine emptying charges</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fuel Costs</td>
<td>Labour Costs</td>
</tr>
<tr>
<td></td>
<td>UGX</td>
<td>USD</td>
</tr>
<tr>
<td>1.8</td>
<td>UGX</td>
<td>USD</td>
</tr>
<tr>
<td></td>
<td>50,000</td>
<td>23.77</td>
</tr>
<tr>
<td>10</td>
<td>150,000</td>
<td>59.42</td>
</tr>
</tbody>
</table>

In case of a broker - a commission of between **UGX 5,000 (1.98 USD) to UGX 10,000 (3.96 USD)** is deducted from the amount that the cesspool owner receives.
Section 2: Mode of operation – The 2000 Trinity Agencies Limited

- Services are provided upon client’s request.

- At the time of research, the emptying charges were slightly higher compared to those charged by the PEAU and KCCA

- For each trip, minimum emptying costs - **UGX 90,000 (USD 35.65)** and maximum fee depended on the negotiation of the client

<table>
<thead>
<tr>
<th>Emptying cost per trip</th>
<th>Fuel</th>
<th>Dumping</th>
<th>Turn-man</th>
<th>Operator's Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>90,000 or more</td>
<td>UGX</td>
<td>UGX</td>
<td>UGX</td>
<td>UGX</td>
</tr>
<tr>
<td></td>
<td>USD</td>
<td>USD</td>
<td>USD</td>
<td>USD</td>
</tr>
<tr>
<td>30,000</td>
<td>11.88</td>
<td>10,000</td>
<td>3.96</td>
<td>10,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Whatever remains (i.e. UGX 30,000 and above), is shared amongst the members of the company
Section 2: Mode of Operation - Highlight on Disposal Charges

After emptying, sludge is disposed off in a treatment plant operated by NWSC.

Disposal charges are based on the **capacity of the truck** – not the amount of sludge.

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Small (less than 3000 litres)</th>
<th>Medium (3000 - 6000 litres)</th>
<th>Large (6000 - 10,000 litres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposal Costs</td>
<td>5000 UGX (1.98 USD)</td>
<td>7000 UGX (USD)</td>
<td>10,000 UGX (3.96 USD)</td>
</tr>
</tbody>
</table>

Three key aspects to look at:

- **Disposal costs are fixed**
- Whether the tank of the cesspool truck is full or not, the operator pays the fixed amount.
- Limits possibilities of having reduced emptying costs.
Section 2: Mode of operation – Manual Emptiers

When called upon, a manual emptier first inquires on the method of disposal

<table>
<thead>
<tr>
<th>Key aspects manual emptiers consider before offering emptying services:</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Location of the facility- close to the channel or not</td>
</tr>
<tr>
<td>✓ Whether there is need to dig a pit besides the facility to be emptied or not</td>
</tr>
<tr>
<td>✓ Whether one has to empty the facility and dispose off sludge in open space or not</td>
</tr>
</tbody>
</table>

_proximity to the channel, digging a pit or emptying in open space_ Greatly determine how a manual emptier works and charges.

- Structure of the facility
- Presence of materials
- Amount of sludge – determined by roughly looking at the size of the facility
- General cleanliness of the facility- roughly determined by looking at the cleanliness of the facility from the outside
- Season – dry or wet season
- Number of stances
## Section 2: Mode of operation – Manual Emptiers

### Factors considered in determining emptying costs by Manual Emptiers

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Presence of materials in the facility</th>
<th>Presence or absence of a channel</th>
<th>Number of toilet stance</th>
<th>Cleanliness of the facility</th>
<th>Seasons</th>
<th>Approx. costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st scenario</td>
<td>Less materials ✓</td>
<td>Presence of a channel ✓</td>
<td>✓</td>
<td>Clean from the outside ✓</td>
<td>Rainy season ✓</td>
<td>UGX 30,000 - 40,000</td>
</tr>
<tr>
<td>2nd scenario</td>
<td>more materials ✓</td>
<td>Absence of a channel ✓</td>
<td>✓</td>
<td>Dirty from the outside ✓</td>
<td>Dry season ✓</td>
<td>UGX 50,000 - 60,000</td>
</tr>
<tr>
<td>3rd scenario</td>
<td>✓</td>
<td>Two stances ✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>UGX 70,000 - 80,000</td>
</tr>
<tr>
<td>4th scenario</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>UGX 90,000-100,000</td>
</tr>
</tbody>
</table>
Section 2: Reflection on modes of operation and follow-up questions

Reflecting on how the identified service providers work-

i) How would you *assess* (by using indicators/criteria) the operation processes?

ii) How do these affect service provision to slum dwellers?
Section 3: Challenges faced by KCCA

- Limited availability of cesspool trucks. One cesspool truck for @ Division
- Lack of maintenance of cesspool trucks. E.g., In case of a breakdown- two months or more to be repaired
- In some cases the quality of vacuum pumps is poor and weak - can hardly empty the facilities well
- Some of the vacuum pipes are old - usually tied around with clothes or rugs to cover the bursts.
- Lack of or inadequate protective wears like overalls, gumboots and gloves.
- Lack of payment - mostly affects casual workers
- Excessive road traffic within the city- limits the no. of trips-
- That aside, NWSC dumping site closes at 18:00 hours- this has two effects:
  
  Much as the cesspool operators would wish to work during less congested hours they would have no dumping ground.

  For those that work beyond the closing time, chances are high that they practice illegal dumping.
- Some Division leaders tend to ask for some money- from truck operator- likely to affect performance
### Section 3: Challenges faced by PEAU

1. Poor quality of vacuum pipes - wear out within a short period – calling for regular replacement- @ meter cost- UGX 25,000 (USD 9.90)

2. Sometimes the customers are not well versed with the types of facilities they have- making price negotiation difficult

3. In some cases the client is not aware of the size of septic tank to be emptied - *this has two effects*:
   a) Estimation of amount of sludge & no. of trips becomes difficult
   b) It becomes difficult to order for the rightful cesspool truck

4. People pour some liquid in their pit latrines to shrink the sludge- gradually hardens the sludge

5. Customers' ignorance on the design of the cesspool trucks' vacuum pipes.

6. Inability or lack of willingness to pay for the services provided
Emptying sanitary facilities is considered as a dirty job and thus not respected by most people. (rude & abusive). *This has two effects:*

a) affects willingness to provide a well performed service.
b) It might also have implications on the amount of money one has to pay

### Overall challenges faced by ALL cesspool truck operators

Limited access to sanitary facilities due to narrow paths between the houses.

In some cases, there are no roads to enable the cesspool truck operators reach the facility – as a result:

- Parks a bit far
- Pipe is short-
- Connecting an extra pipe (if available)
- Extra charges
- Time & fuel
- Becomes expensive

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### Section 3: Challenges faced by Manual Emptiers

#### Poor working environment
- Despite their potential to access pit-latrines that cesspool truck can’t access, given their mode of operation, their services are considered illegal.
- As a result, they are usually being monitored by Health Inspectors and community leaders.
- Therefore, while emptying, they are always on the look out which situation they claim hampers the quality of services they deliver.

#### Lack of emptying equipments
- Safety equipments like gumboots and gloves are expensive
- They resort to polythene bags, which tear more often
- Regularly, they are have direct contact with feacal sludge, - high chances of contracting diseases.

Presence of materials like rugs, sponges, plastics etc.

Poor maintenance of sanitary facilities, poor/weak latrine structures.
Imagine you are one of the key stakeholders mandated with the task of promoting proper faecal sludge management, which measures would you recommend and or put in place to address the identified challenges?
1(a). In consideration of your analysis of operation processes, the challenges, the service beneficiaries and any other potentially influential stakeholder(s), identify key priority areas that require attention and draft an implementation strategy that can be used to upscale feacal sludge management in slums, indicating approaches that can be undertaken while identifying potential actors for change.

b). How would you engage the identified stakeholders/actors in the planning and implementation of the strategy?
Guide for review on this subject

For detailed review, please have a look at the attached article on Emptying and Disposal of Sludge in the slums of Kampala.

THANK YOU!