

KAMPALA FEACAL SLUDGE MANAGEMENT

IMPROVING FEACAL SLUDGE MANAGEMENT FOR ON-SITE SANITATION





189 km²

KFSM Project brief

Currently, 900 m³/day of faecal sludge is generated in Kampala but the available desludging equipment is able to transport only 390m³/day. Moreover, there is an additional demand of 150m³/day which emanates from districts neighbouring Kampala (KCCA, 2014). Critically, the only FS treatment plant has a capacity of 400m³/day; hence the treatment capacity is surpassed by 50%. In addition, the long haulage distances (of up to 17km) to the treatment plant increases the cost of managing faecal sludge. Consequently, many parts of the city are un-served and the cost of FS collection and transportation (i.e. USD 9/m³ and USD 60/m³ for a cesspool truck and gulper, respectively) is unaffordable for the urban poor.

Additionally, there is limited information on the spatial distribution and location of sanitation facilities in Kampala which makes enforcement of standards, planning for resource allocation and monitoring of service provision a challenge. Furthermore, there is no systematic structure to disseminate information on FS desludging services to the public. As a result the urban poor (who make up 64% of Kampala's population) are the most affected by the above problems.

Kampala Capital City Authority (KCCA) with support from the Bill and Melinda Gates Foundation is currently investing on a project (KFSM) to improve Faecal Sludge Management in the vulnerable urban poor areas of Kampala city through an efficient and affordable private sector led service delivery model. The three year project started in December 2015.

Project Beneficiaries

The primary project beneficiaries are the residents of Kampala city, especially the urban poor of over 270,000 who will have access to regulated faecal sludge collection and transport (FS C&T) services. Kampala's urban poor, estimated at 60-65% of the city population, will access improved sanitation services and its associated benefits, including but not limited to: reduction of accumulated FS in the environment, reduced disease epidemics, reduced costs of treating health problems related to inadequate sanitation, improved productivity due to reduction in disease incidence and less time spent to access improved services.

The Project is also envisaged to alleviate pollution impacts due to indiscriminate discharge of faecal sludge into the environment. Some of the critical ones include; water pollution, disease epidemics and other social economic impacts of poor sanitation. The Project has the potential to realise positive health, educational and environmental outcomes in beneficiary communities; thus, enhancing the City's environmental quality, public health and socio-economic competitiveness.

400 m³/day
Treatment plant capacity

50%
Abandoned latrines in informal settlements

43%
FS collection efficiency

30%
Latrines in informal settlements emptied into the environment

64%
Urban poor make up Kampala's population

Objectives

KFSM's overall objective of the investment is to improve faecal sludge management (FSM) services for on-site sanitation in Kampala City. Specifically, the project intends to:

- i. Develop and maintain a sanitation GIS Based database for Kampala for planning resource allocation and monitoring of service provision
- ii. Implement binding Service Level Agreements (SLAs) for Faecal Sludge Collection and Transportation (FS C&T) to ensure regulated, efficient and affordable services
- iii. Conduct social and sanitation marketing measures throughout the city to improve peoples' willingness to adopt and pay for improved sanitation solutions
- iv. Build Capacity of service providers and KCCA for effective service provision and regulation respectively
- v. Upgrade the existing client care services to include a call centre to bridge the gap between users and service providers and improve efficiency (e.g. reduction in the response time for receiving services).



Kampala city

Project Components



Sanitation Mapping



OBJECTIVES
To develop a citywide sanitation geo-database for investment planning, resource allocation, monitoring service delivery and location based services

KCCA carried out a city wide sanitation mapping exercise *aka* "home sanitation" visits from January 2017 to June 2017 in order to;

- Assess health-related environmental and sanitation conditions at the individual, family and community levels
- Utilize this information to target and guide investment planning, resource allocation, monitoring and regulation of service delivery and enforcement of standards.

Approach

The approach that was taken for these home sanitation visits is as follows;

- Engage with local leaders at all levels
- Sensitize communities
- Door to door home sanitation visits

22% of households have every emptied before

90% of the households have accessibility by Cesspool track

96% of the households reported that Cesspool was the most used emptying method

79% of households reported good quality of emptying service

10 years average age of toilet facilities in Kampala

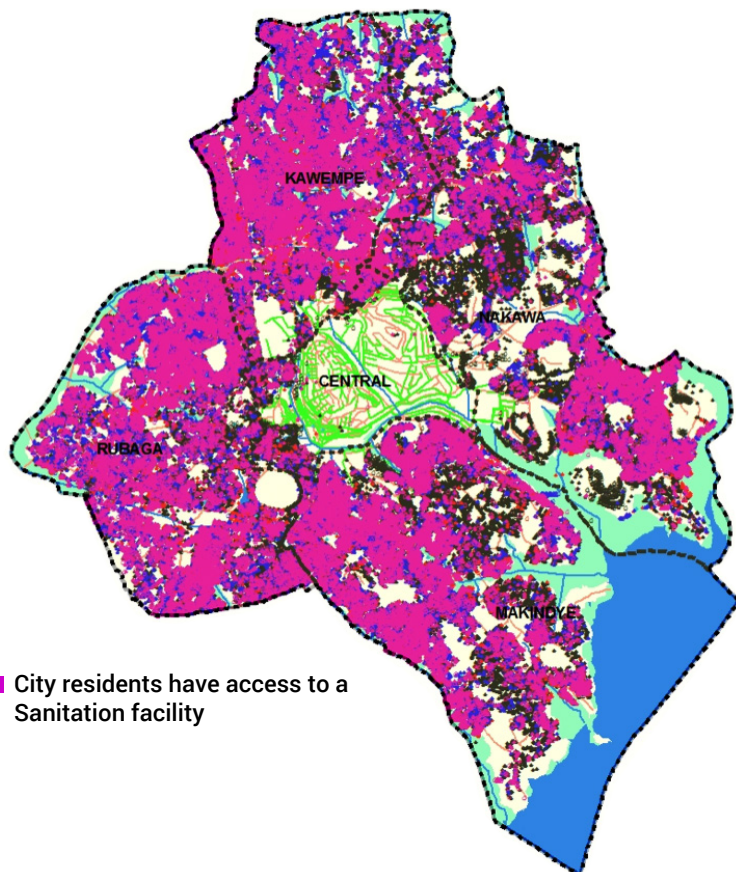


ED KCCA launching the Sanitation home visits



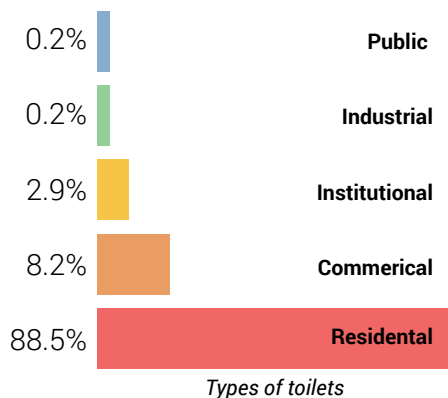
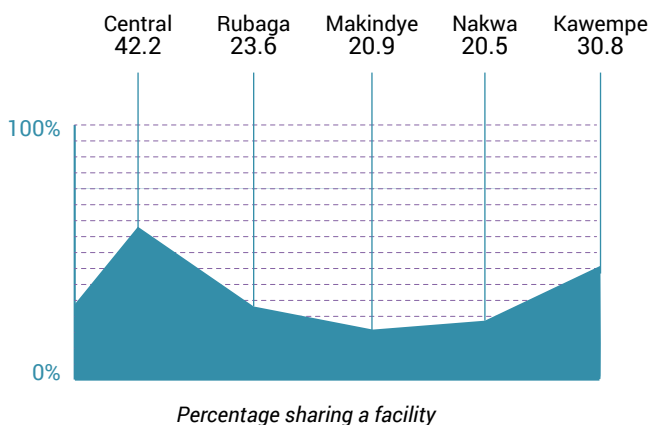
Data collection during the sanitation home visits

Map showing Citywide Sanitation Highlights

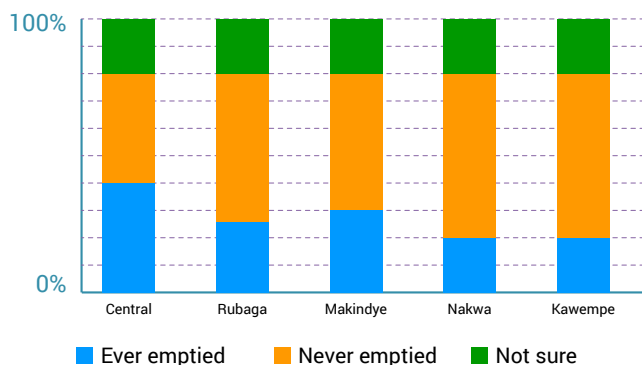


- 99% Access to Sanitation
- 38% Access to improved sanitation
- 171,268 sanitation facilities mapped
- 2.4M users
- 6% Sewer coverage
- Latrines most predominant
- Unlined latrines – Majority
- Emptying services still low
- Sharing of facilities high (50% of mapped facilities)

■ City residents have access to a Sanitation facility



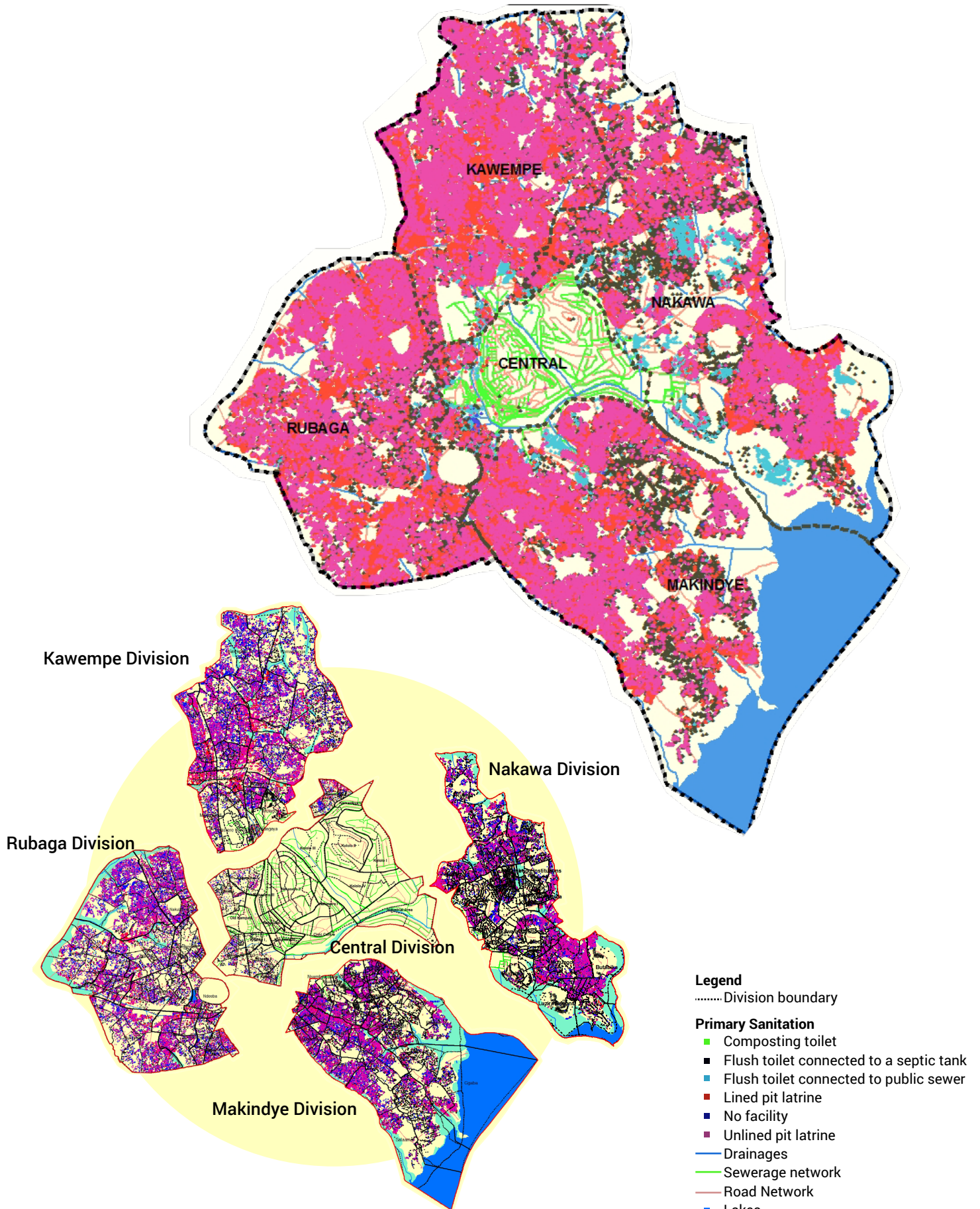
Has a Toilet that has ever been emptied



STATUS **50%** Sanitation facilities are shared with more than 2 households (10 People)

7% Residences have more than one Sanitation facility

Kampala & division maps location of sanitation facilities



Contact Centre



The contact centre call flow



FSM HOTLINE (0800 99 000) Customer gets phone number through BCC publication media tools say posters. Customer could also get the number via KCCA social media channels or other media.



IVR Recorded Reception (Caller is greeted by a recording) Customer dials the toll free service to inquire about service delivery



Data - Call Agent takes down details of names, location, type of service, preferred time to deliver the service among others



Call Agent follow-up
Call agent calls up the customer after 24 hours to evaluate service.



Caller now refers case to a service provider on location Call Agent finds out available service provider in location and shares all details by SMS after the call.



Call End
After the call, the system allows the agent to close the case and do more reporting

Objectives of the Contact Centre

- To link FSM service providers within the Parishes to customers that seek FSM services.
- To inform and educate the customers about how they can improve FSM within their homesteads
- To evaluate FSM service provision within the Parishes.
- To facilitate research and development through capturing any information coming through the contact center.

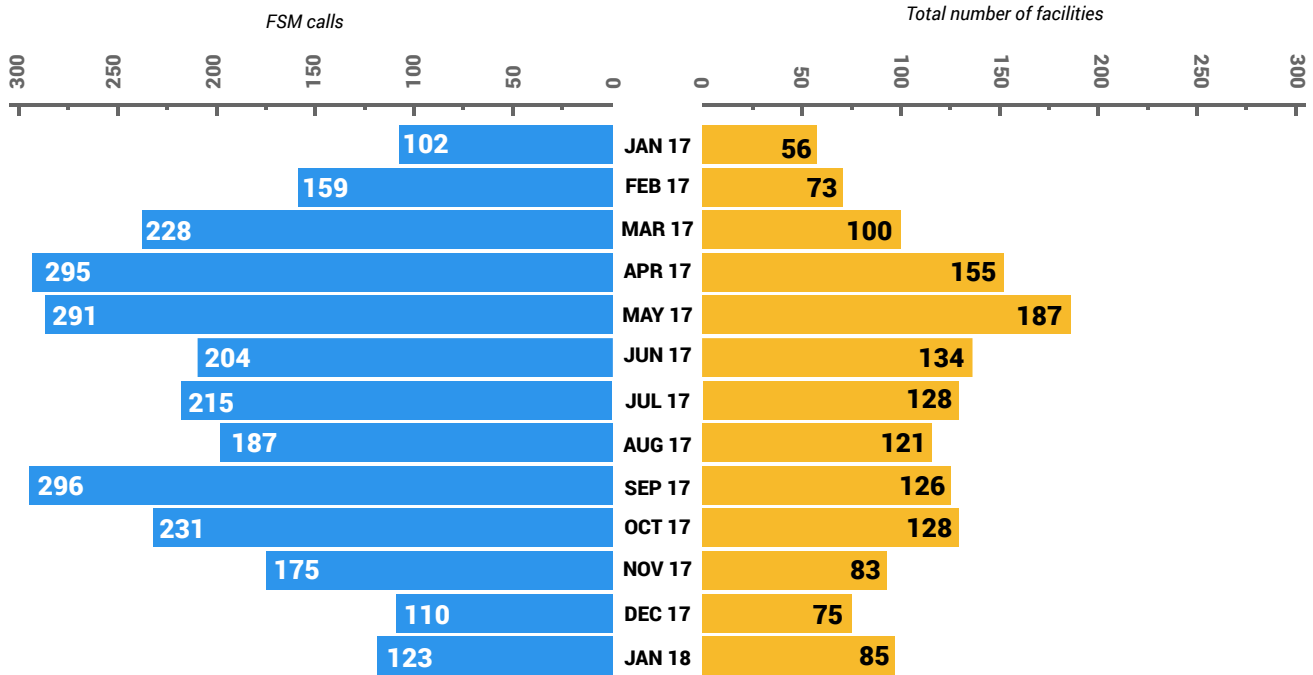
80%

Clients who have called testified to have received service. This is proof that the call centre is achieving its target and making sure that atleast all the clients who call in get a service at the fee that is convenient for them.

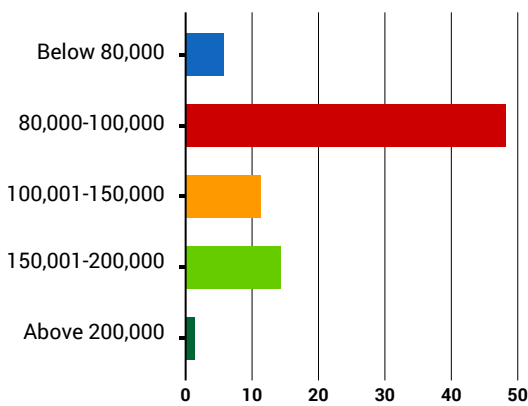
Contact Centre

Contact centre call statistics

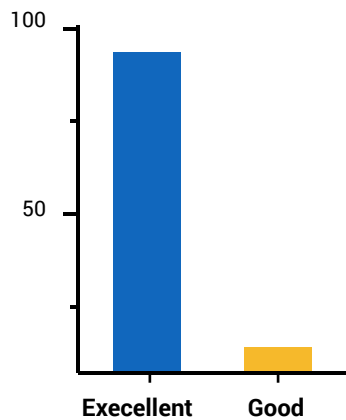
Total number of FSM related calls received vs Total number of facilities emptied from Jan-17 to Jan-18



Amount of money paid per emptying job



Service evaluation



At least 90% of the clients appreciate the service. A few mentioned that their facilities were partially emptied or the truck that was taken was too small



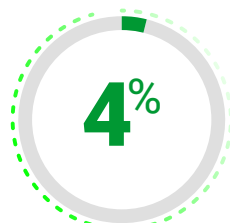
Clients who used Cesspool technology were charged between UGX. 60,000 - UGX. 250,000 per trip depending on how deep the toilet was, how long it was from the facility to where the truck parked and the nature of the facility.

And those who used the gulper technology were charged UGX. 25,000 per barrel for a lined toilet and UGX. 30,000 for the unlined toilet.

Emptying technologies used

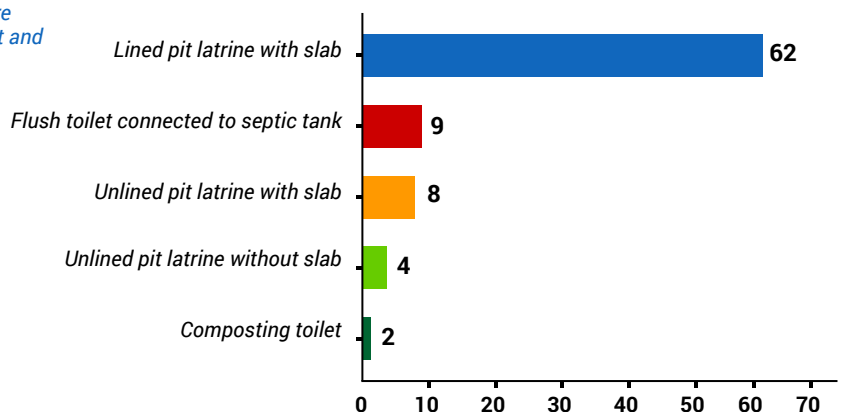


Cesspool



Gulper

Emptying technologies used



Sanitation GIS Tracking

Tracking exercise

To strengthen the close collaboration and engagement with the private emptiers, and to build the momentum towards regularization and regulation, in particular monitoring of operations and record keeping, a tracking exercise for private cesspool emptiers has been going on since January 2017. It is monitoring demand and disposal patterns to the areas that are (not) frequently served in the city and safe disposal of FS. Data on collection and disposal of FS is captured using mobile based technologies (Smart Phones)

A tracking exercise on private emptiers is being conducted to capture data on the locations where fecal sludge is collected from and the place where it is disposed of (dumping site).

The fecal sludge is dumped at two sites i.e Bugolobi sewage treatment plant and Lubigi sewage treatment plant. A total of fifteen private emptiers and seven KCCA cesspool truck drivers were involved in the tracking exercise during the month of January, 2018.

Objective

The purpose of this exercise is to establish demand patterns for pit emptying in Kampala to better inform planning for Fecal Sludge Management (FSM) in Kampala.

Methodology

1. Mobile Tracking

Collection of emptying and deloading points using a Smart Phone

GPS points were captured.

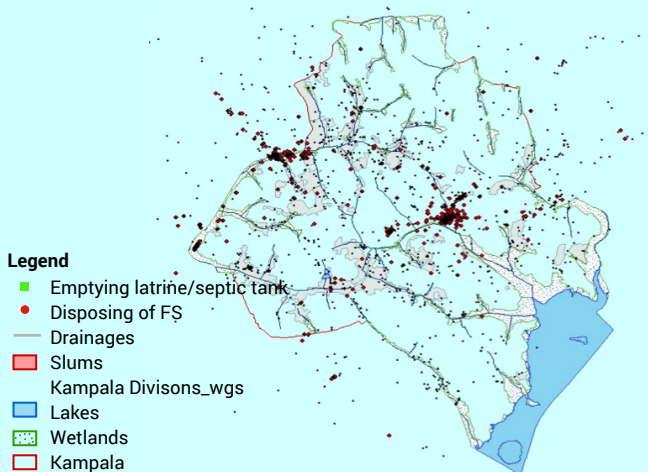
Data is uploaded through the internet

The private emptier's involved in the tracking were given 100 MB data bundles to facilitate in uploading the data.

2. Fecal Sludge Manifest Tool

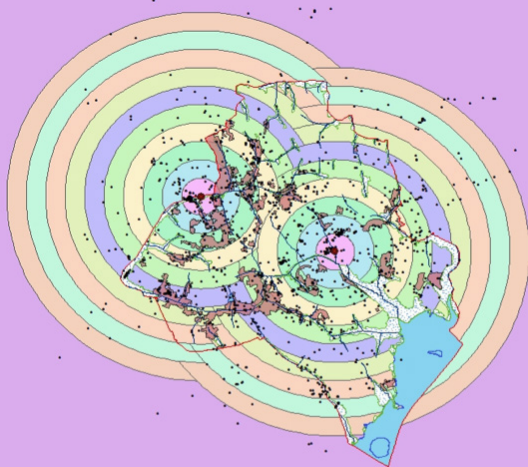
A tool to capture data on emptying services provided by private operators was developed and data is collected at the FS Treatment Plants. Collection of data on origin of FS and its volume`

Distributions of emptying points

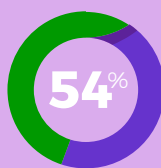


ED KCCA launching the GIS Pit emptying tracking system

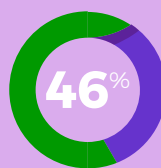
Distance of FS Treatment facilities



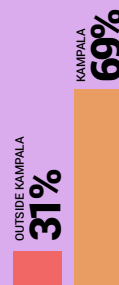
Emptying Latrines/Septic Tanks Within Kampala Vs Outside Kampala Boundaries



Outside Kampala



Within Kampala



Emptying in Kampala vs outside Kampala

The presumption would be that after each activity of emptying a latrine the emptier should dispose of the FS collected. However, the emptying points were greater (59%) than the Disposal Points (41%).

Reasons for that could be that FS was dumped illegally and not at a treatment facility, but since nearly all trips start and

stop either at Bugolobi or Lubigi treatment plant, the dumping event also could be triggered after possible illegal dumping somewhere back at the base. More likely some entrepreneurs forgot to trigger the emptying event while de-loading. According to the Kampala Shit flow diagram only two percent of FS disposed by emptier are not de-loaded at an empty facility

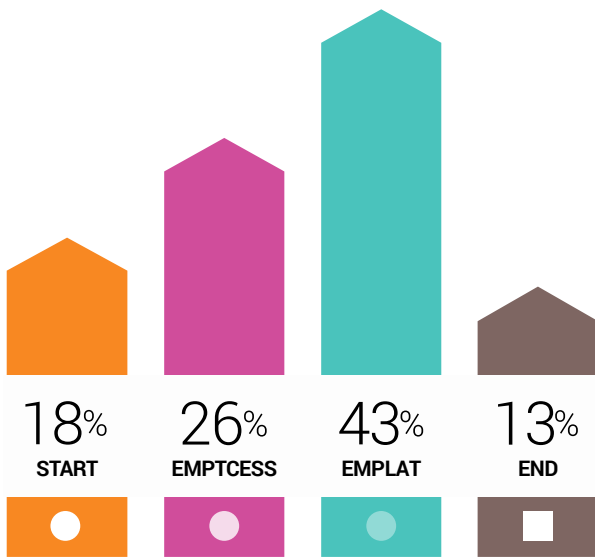


46% of all entries were picked in Kampala, 54 % outside Kampala. From these most were picked in the exurb of 5km radius around FS Treatment Plants. Especially in Nansana and Wakiso, two areas immediate to the Lubigi treatment plant, a lot of latrines and septic tanks were emptied.

One reason could be, that most of the Cesspool emptiers park their trucks at Lubigi treatment plant. According to the cesspool emptiers a high number of jobs are got through their visibility (phone number on truck) and personal contacts. This is an indication that there is little demand in remote rural areas. Only one emptying was in Entebbe, it could be that there are already other emptying companies which did not participate in this exercise.

Sanitation GIS Tracking

Cesspool emptying facility



Graph showing the trend of pick up Vs dumping

Findings

- Only 15% of private operators were using the software by December 2017 to share their information. This has been attributed to the Fears of sharing information with potential competitors, and Insufficient confidence of the private emptiers to use the software
- Refresher trainings and more engagements with the operators are planned to address the issues above.
- No evidence of illegal disposal of FS by the operators. This is to be encouraged and monitored.
- 17% of emptying services extends beyond the city boundaries into the metropolitan areas of Kampala
- 16% of emptying takes place in informal settlements of the city. Thus, more needs to be done to improve this percentage.

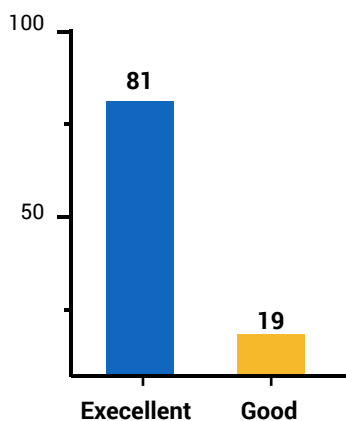
The Gulper Entrepreneurs

- These are part of the private sector and are in collaboration with KCCA as one of their main stakeholders into FSM. They formed an association in 2017, comprising 14 members who all use their own company names.
- The Sludge gulper was unveiled in Kampala by Captiva Africa Ltd/Water for People (WFP) in early 2013. The Gulper is a Sludge emptying device, tailored to areas not accessible by tankers. It is a simple direct lift pump that operates in a similar way to a bore hole.
- 10 gulper operators exist, only 4 own tricycles for FS transportation to the treatment plants. 3 out of the 4 gupers have certificates of incorporation.

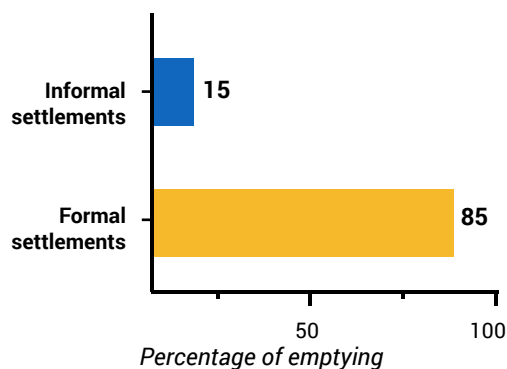


Gulping Pit emptying technology

Faecal Sludge Disposal sites



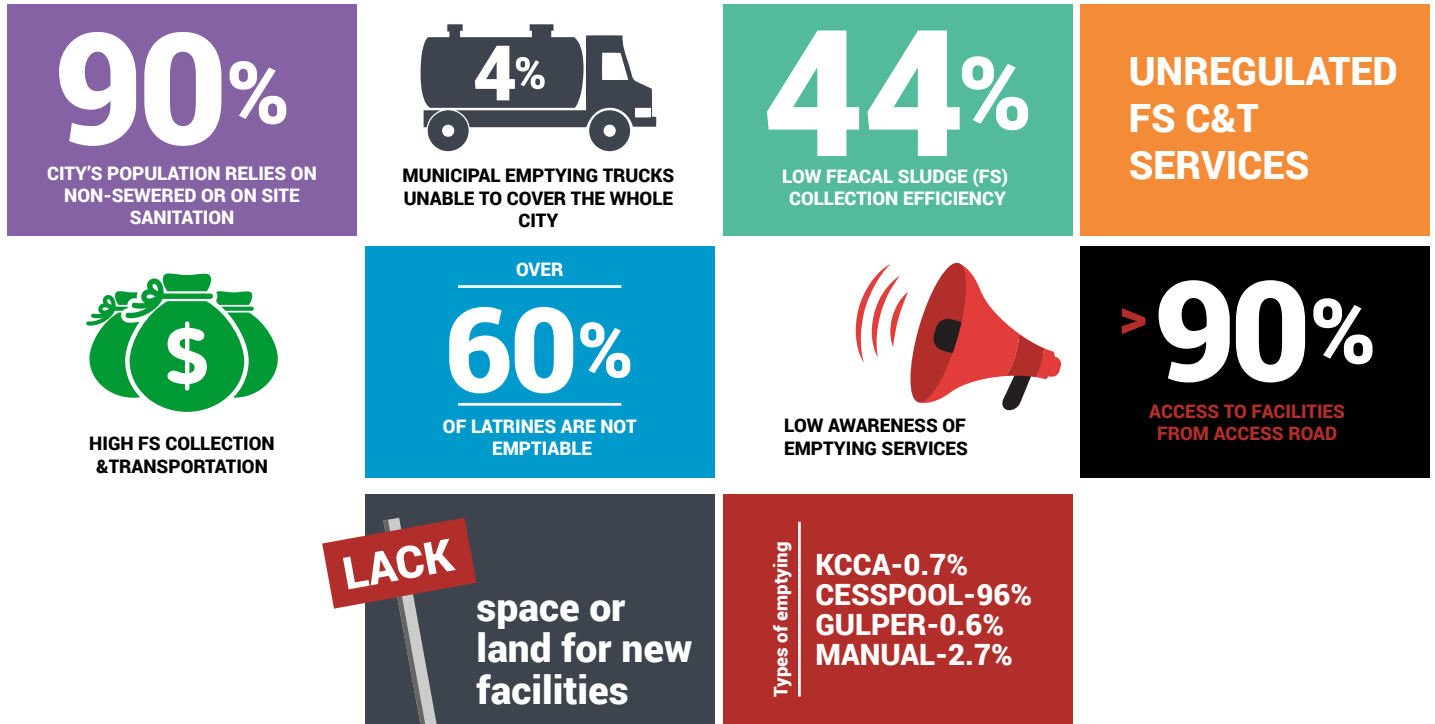
Disposing of the Faecal Sludge collected was at 81% in Bugolobi sewage treatment plant and 19% at Lubigi Sewage treatment plant



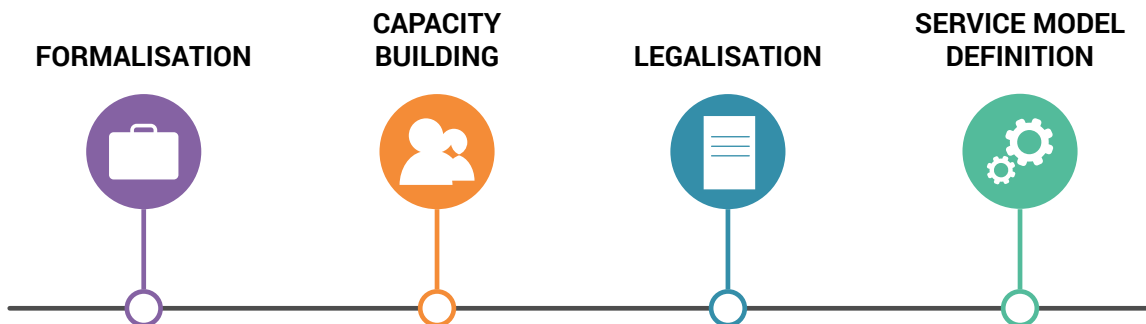
85% of all the emptying activities carried out were from formal settlements of Kampala. This implies a need to increase emptying of sanitation facilities in the informal settlements of Kampala

Private sector Participation

RATIONALE FOR PRIVATE SECTOR PARTICIPATION



Private Sector Engagement Approach



This approach recognizes the need to establish a supportive environment for formalization and regulation of service delivery, and sanitation business development for a sustainable sector where products and services demanded by households (and institutions) are supplied by a well-regulated market.

Among KFSM Projects objectives is to enhance sanitation business development and to formalize the FS&CT market by investing in the design, implementation, and supervision of binding Service Level Agreements (SLAs) for Faecal Sludge Collection and Transportation (FS C&T).

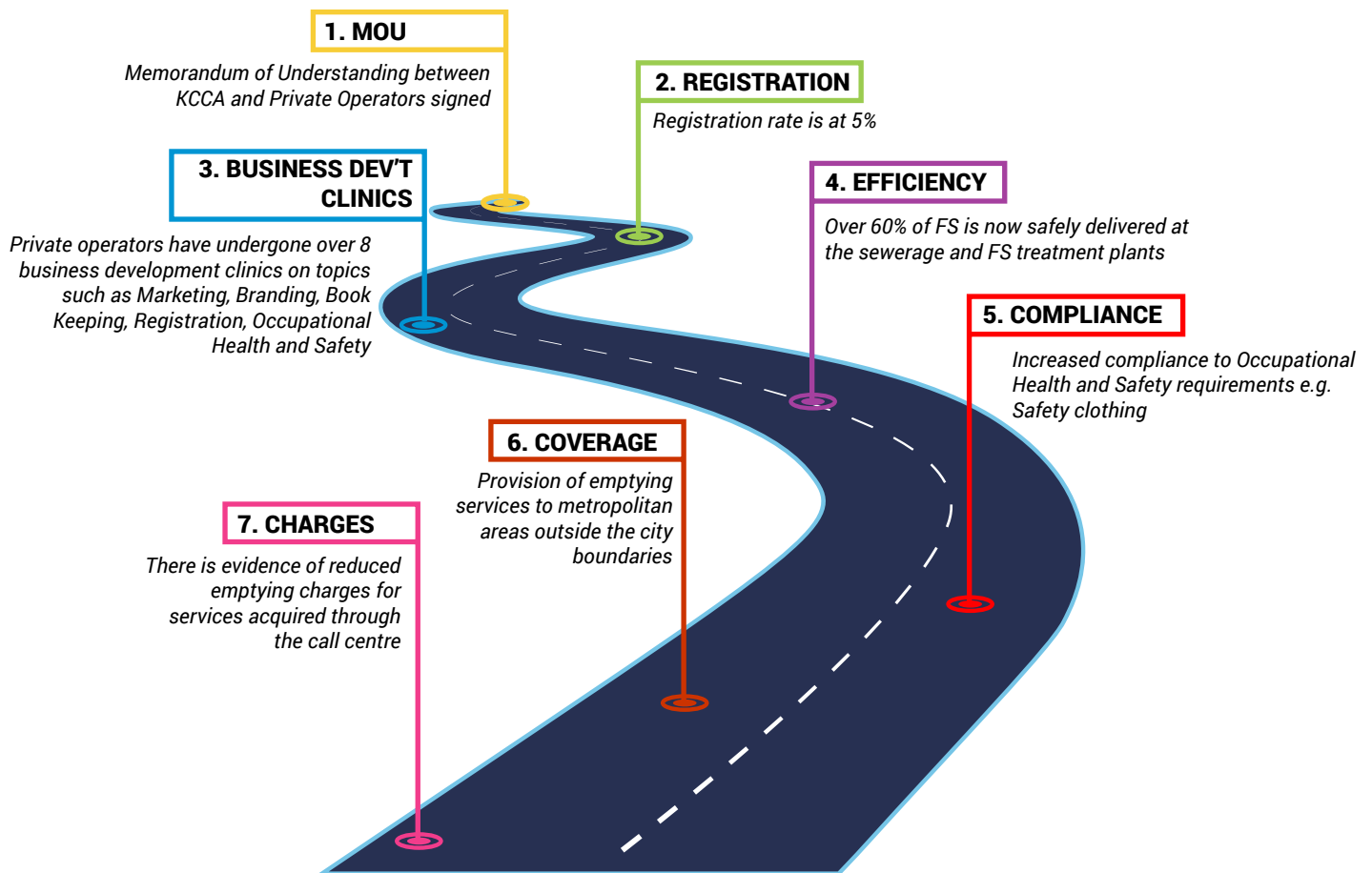
The Project therefore adopted a Private sector participation approach that progressively moves from simple MoUs to binding SLAs as seen below



Business development training for the private emptiers

Private sector Participation

Progress to date



Lessons Learnt

1. Formalising Private Sector participation in FSM can be a lengthy process. Must allow for hand-holding or support to the private operators through this process.
2. Need to lay foundations before moving to the formal contracting of services i.e. business development sessions can be very useful in preparing entities for formal contracting.
3. Private sector partnerships can bring efficiency gains through competition.
4. Need to continuously sensitize and engage communities to generate demand for services. Enforcement has been observed to be a necessary intervention to complement community sensitization activities.
5. Integrate solid waste management and FSM as most toilets are full of solid waste.
6. Increasing the asset base of private emptiers can positively influence affordability.



Leaders of the Private Emptiers Association giving opening remarks during the training session



Private emptiers during a training session

Behavioural Change Communication

The three key behaviors



Is your pit latrine full? Ensure that you empty it properly using Gulper or Cesspool emptier. Call **0800 990000** to request for a service provider



Wash your hands with soap and water each time after visiting the toilet or pit latrine to reduce infections and diseases for you and your household



Ensure you build a toilet/pit latrine that complies with the KCCA minimum standards; at least it has to be lined/sealed, because that ensures it can be emptied

This involves reaching out to different sectors of community with the aim of creating impact. The Kampala Faecal Sludge Management (KFSM) Project embarked on impact creation in the communities focusing on 3 key behaviors all aimed at behavioral change for improved sanitation through community mobilization.

These include:

- i. Safe pit emptying
- ii. Sanitation and hygiene.
- iii. Construction of emptiable toilets

Approach

1. Hold introductory meetings with the Authority Councilors and the Lord Mayor about Faecal Sludge Management.
2. Conduct entry meetings with the Division Mayors and councilors before trickling down to the communities to avoid resistance and hostility.
3. Political support / involvement like the mayor, councilors & local leaders leads to ownership of the program by communities.
4. Conduct trigger meetings (barazas) in the Parish which are later followed by the engagements at the zonal level with the leaders, community members, landlords focusing on the three key behaviors.
5. Door to Door visits are also conducted interfacing with the individual target audiences.
6. Enforcement is carried out in the areas that are sensitized. Residents are warned, issues nuisance notices while others without toilets are given a time period to ensure that they construct toilets. During follow up, arrests are done for those that have not complied.



Nakawa Division Mayor Launching The Sensitization exercise in Nakawa Division



Mayor Rubaga Division Hon. Ssebugwawo briefing journalists about the Sanitation Sensitizations



Health Inspector issuing a nuisance notice to a landlord



Landlord constructing a lined pit latrine

Behavioural Change Communication



Below are statistics from Behavioural Change activities carried out

8454
Number of households visited

370
Commercial premises visited

125
Institutions visited

2719
Landlords engaged

349
Walk in client handled

1044
Landlords willing to pay for FSM services

71
Illegal dumpings reported

23
Diarrhoea outbreaks reported

52
Open defecation reported

4970
Number of emptying trips made

324
Nuisance notices served

1014
Number of filled facilities

Model Village Approach

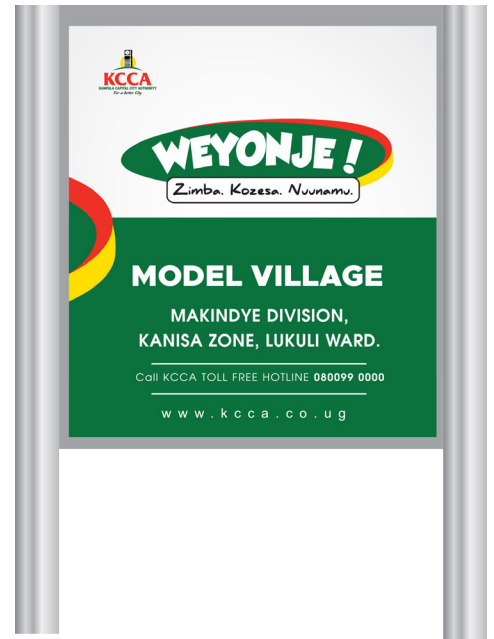
A model village is a community where access to an improved sanitary facility (toilet), sanitation and hygiene is well maintained according to the public health act standards.

The concept entails establishing a model village in each of the five divisions that constitute the city (Kawempe, Rubaga, Makindye, Nakawa and Central).

Model villages have been selected at parish level and thus one zone/village in the parish will be selected from each division. Each of the model villages is a community where access to an improved sanitary facility (toilet), sanitation and hygiene is well maintained according to the public health act standards. These model village are serving as a reference point to other zones/villages for the techniques, experiences and environment created to raise sanitation levels.

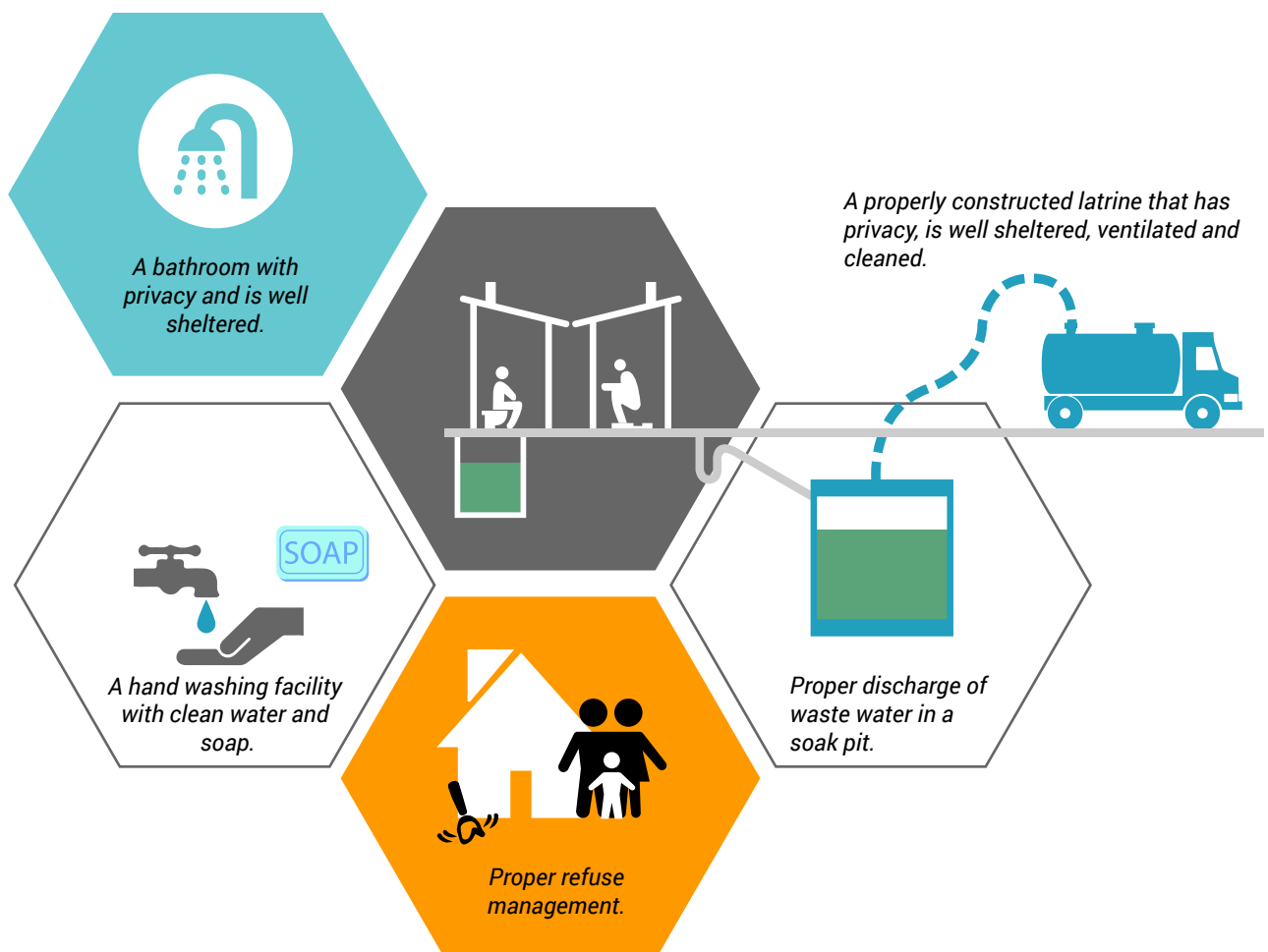
During implementation of the model village approach, the following steps were to be taken;

- Training of sanitation champions who include VHTs, LCs, Councillors and Ward administrations for the different parishes;
- Conducting Community barazas;
- Conducting of landlord meetings;
- Training of the sanitation Champions (VHT's) who will conduct door to door sensitization.
- Monitoring and evaluating the implementation of sanitation standards;
- Issuing of nuisance notices to landlords with loopholes by the health inspectors;
- Enforcement after the grace period of the issued nuisance notices has elapsed so that landlords can adopt the desired sanitation standards.
- Conducting continuous sensitizations and follow-ups to track behavioural change.
- Having emptying costs subsidized.
- Awarding incentives to landlords in informal settlements who comply to the Public Health Standards thus promoting healthy competitions.
- Having the communities completely own the FSM programs to promote sustainability.



Model Village signage

Model Villages in a parish shall all have households that have



Strengthening city wide coordination of stake holders

Project Partners and Stakeholders.

The project has facilitate the successful implementation of the KFSM projects, KCCA and GIZ-RUWASS have established a Project Steering/Advisory Committee to enhance high level participation and decision making within the existing institutional and regulatory framework relevant to FSM in Kampala City. Composition.

In addition to the KFSM Project Management Team (PMT) secretariat, the PSC comprises of nominated top management representatives from the following institutions:

1. Kampala Capital City Authority (Chair)
2. National Water and Sewerage Corporation (Member)
3. National Environment Management Authority (Member)
4. Ministry of Health-Environmental Health (Member)
5. Ministry of Water and Environment-DWD (Member)
6. UWASNET (Civil Society Representative)
7. GIZ-RUWASS (Development Partner's Representative)
8. Project Secretariat – Project Team Leader and/or Project Manager



Participants during the 2nd High level FSM committee meeting in Kampala



2nd High level FSM committee meeting in Kampala



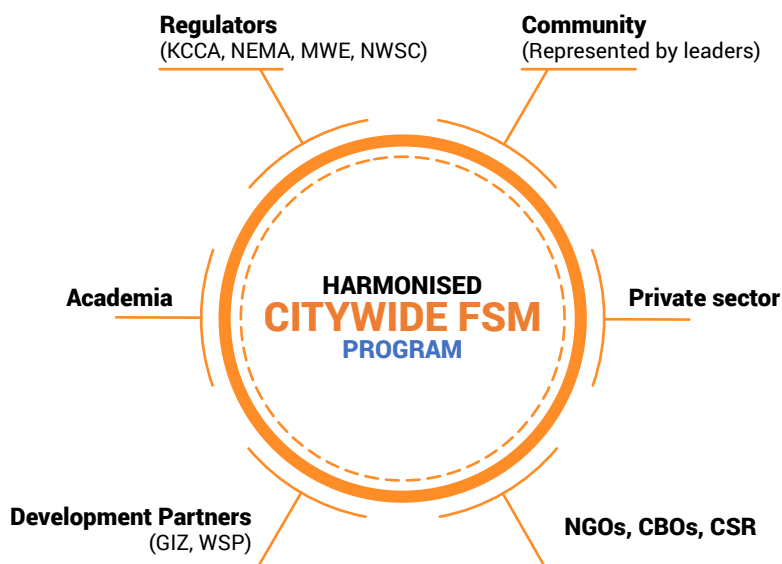
Stakeholders meeting

Objectives

- To bring together the various stakeholders and interests within the existing institutional and regulatory framework relevant to FSM in Kampala, to enable synergies and facilitate better planning.
- To Strengthen inter-agency coordination and ensure holistic participation of relevant stakeholders in program activities
- To minimize duplication and optimize the available resources and capacities

Key Results So Far

- Increased impact in schools and community sanitation programmes
- Better leverage of resources according to stakeholder strengths and knowledge e.g. NGOs – mobilisation, Donors – financing, NWSC - treatment
- Stronger inter-institutional collaboration e.g. pollution control that is comprised of KCCA, NWSC, NEMA, MWE, Industries
- Joint research programmes with academia to develop an evidence base to address technological, financial, environmental and practical constraints of service delivery
- The establishment of division FSM coordination offices has enhanced; community participation, demand creation for improved sanitation facilities & safe pit emptying and coordination of both public and private emptying services.





KAMPALA FEACAL SLUDGE MANAGEMENT PROJECT



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