Mobile for Development Utilities

UKaid from the British people

SANERGY



6 CLEAN WATER AND SANITATION

Sanergy

GSMA Mobile for Development Utilities Seed Grant 2015-2017.

Exploring the use of mobile-enabled sensors to optimise sanitation waste collection in **Kenya.**

Photography credit: Sanergy

USE OF MOBILE

M2M
M2M connectivity

Mobile Services
Mobile App

Sanergy and SweetSense installed GSM and RFID enabled infrared sensors to record Fresh Life Toilet activity and estimate fill levels. Waste collectors and Fresh-Life Toilet Operators were able to use the sensors as well to record servicing events and request assistance by swiping RFID tags. A mobile app was also developed to capture waste weight data.

Sensor data was recorded from **40 Fresh Life Toilets** in informal settlements of Nairobi and used to dynamically predict the frequency of waste collection.

PROJECT OUTCOMES

"I prefer the sensor method [because] it saves time, cost and it is easier to monitor the toilet."

- **Fresh-Life Toilet Operator.**

"There are less complaints [from Fresh-Life Toilet Operators because] I am able to tell where there are problems and deal with them. It is very efficient."

- **Sanergy staff member.**

KEY PROJECT LESSONS

Initial hardware costs are only a fraction of overall costs as **sensor operation** and **maintenance costs** also have to be considered when implementing a new sensor system.

Sensors can be particularly useful to **learn about operations and customers,** rather than as a permanent tool for usage monitoring on all toilets.

Sanergy has operationalised some of these learnings, including recording waste collectors' servicing activities in real-time.