



THE REPUBLIC OF UGANDA  
**MINISTRY OF WATER  
AND ENVIRONMENT**



# **THE ROLE OF DIGITAL APPLICATIONS IN PROMOTING SUSTAINABLE FAECAL SLUDGE MANAGEMENT IN NORTHERN UGANDA**

A Case Study of Weyonje North App

# THE ROLE OF DIGITAL APPLICATIONS IN PROMOTING SUSTAINABLE FAECAL SLUDGE MANAGEMENT IN NORTHERN UGANDA

## A CASE STUDY OF WEYONJE NORTH APP

### ACKNOWLEDGEMENTS

This work was made possible through financial support of the German Federal Ministry of Economic Cooperation and Development (BMZ), GIZ in close collaboration the Ministry of Water and Environment (MWE).

Thanks go to the Local Government partners of Apac Municipality, Aduku, Anaka, Ibuje, Amuru, Purongo, Olwiyo and Koch Goma Town Councils, and Private sector partners including British Hygiene Care, Lengo Ber Sanitation and Aswa Connection for the active participation in providing invaluable feedback on your experiences while on the frontlines of implementing the program.

Special thanks to the Northern Umbrella for Water & Sanitation (NUWS) and GIZ Sanitation for Millions Uganda teams for the insightful input, technical backstopping and the peer review of the document whilst providing helpful feedback.

### CONTRIBUTORS & PHOTO CREDITS

#### Ministry of Water & Environment - Northern Umbrella for Water & Sanitation Team:

Martin Namalwa, Simon Peter Opwonya and Gaius Okecha

#### GIZ Sanitation for Millions Uganda Team:

Allan Conikane, Vanessa Mugide, Fred Nuwagaba, David Ongom Owilli, Irene Faith Alinga

### PUBLISHED BY

#### Ministry of Water & Environment (MWE) - Northern Umbrella for Water & Sanitation (NUWS)

with support from GIZ Sanitation for Millions Uganda.

FEBRUARY 2025



**SANITATION  
FOR MILLIONS**



# SUMMARY

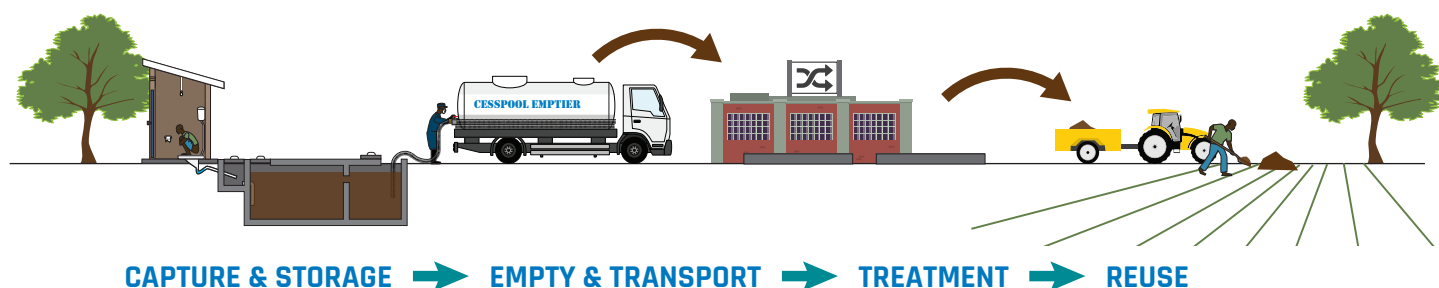
At present only 2% of the Urban Ugandan Households are connected to a sewer line<sup>1</sup>, with 90% relying on on-site sanitation facilities such as septic or pit toilets<sup>2</sup>. Consequently, emptying services are essential without which informal pit emptiers would resort to unsafe emptying and illicit dumping of faecal sludge posing environmental and health risks. Therefore, to address persistent issues facing FS service provision in small and medium sized towns in Northern Uganda, such as:

- Unregulated disposal of Faecal Sludge by private operators.
- Long response time to customers emptying needs due to communication gaps resulting in to low safe emptying practices and sometimes abandonment of latrines.
- Long haulage distance from the emptiable containment facilities to the treatment plant.

Northern Umbrella of Water and Sanitation (NUWS), a public utility under Ministry of Water and Environment (MWE) in collaboration with GIZ Sanitation for Millions programme piloted a digital mobile application known as “Weyonje North” to ensure sustainable Faecal Sludge Management in Apac and Anaka cluster towns of Aduku, Ibuje, Amuru, Koch Goma, Apac, Olwiyo, Purongo and Anaka. Northern Umbrella benchmarked from a successful implementation of “Weyonje” application in Kampala city by Kampala Capital City Authority (KCCA) and tailored the application to the local context of small to medium-sized towns in Northern Uganda.

The Weyonje application particularly addresses both the needs of the urban poor who might not have access to the service provider and the private operator to get prompt alert regarding emptying needs. This approach extends the reach of sanitation services to underserved communities through the use of technology by significantly increasing the accessibility of toilet emptying services, facilitating improved FS service provision for the community by simplifying the process of requesting and managing sanitation services.

This digital innovation was complimented by key interventions which focused on:



- Testing of targeted household toilet incentives for safely managed sanitation.
- Development of minimum standards for containment (toilets).

- Leasing of cesspool trucks - (8,000 liters' cesspool truck with support from GIZ S4M.
- Scheduled emptying.
- Clustering of communities and towns.
- Capacity building on Standard Operating Procedures (SoPs).
- Digital tracking.

- Standardized infrastructural design of Faecal Sludge Treatment Plants (FSTPs) and construction (Apac).
- Development of Operation and Maintenance Guidelines for FSTPs.
- Capacity building on SoPs for FSTPs.

<sup>1</sup> Uganda Demographic and Health Survey, Uganda Bureau of Statistics, Government of Uganda, 2016  
<sup>2</sup> UBOS - Uganda Statistical Abstract 2019

And as a result,

- Safe and affordable emptying services have been promoted.
- Increased private sector participation and investment in FSM.
- The volume of faecal sludge delivered to treatment plants increasing 3.5 times from an average of 40 m<sup>3</sup> between 2019 and 2023.
- Increased awareness of safe emptying practices resulting into household construction of safely managed toilets.
- Improved efficiency and reduced environmental pollution.
- Enhanced community resilience to climate change.

This case study therefore highlights the usage of the Weyonje North digital mobile application, an innovation to deliver sustainable Faecal Sludge Management (FSM) in Northern Uganda. The lessons shall support further refinement of tested sector approaches for potential upscale across Uganda and other developing countries.

## OVERVIEW

Northern Umbrella of Water and Sanitation (NUWS) is one of the deconcentrated structures of Ministry of Water and Environment (MWE) under the Directorate of Water Development (DWD), in the Department of Urban Water Supply and Sewerage Services. It was registered as a government limited company (by guarantee) on the 3rd of February 2011. NUWS is mandated to manage piped water supply and sanitation systems in small towns (STs) and rural growth centres (RGCs) in Northern Uganda. NUWS is committed to improving the sanitation situation and this forms part of the on-going commitment by the government of the republic of Uganda to improve water and sanitation services in the RGCs and STs of Northern Uganda.

Northern Umbrella of Water and Sanitation with support from GIZ Sanitation for Millions program has over the years been promoting FSM in the Apac Cluster towns of Aduku and Ibuje Town councils and Apac Municipality with a catchment reach of over 62,834 people and in the Anaka cluster Towns of Anaka, Amuru, Purongo, Olwiyo and Koch Goma Town Councils with a catchment reach over 150,000 people.



Figure 1: Geographical location of the cluster towns where the Weyonje app was piloted under NUWS.

# PROBLEM

Access to safe sanitation services in Uganda is still limited, currently standing at 39.2% (urban) and 7.1% (rural), while up to 22% of rural Ugandans still defecate in the open (MWE, 2020)<sup>3</sup>. Onsite sanitation (OS) remains the most applied used sanitation system in Uganda, with over 90% of population relying on on-site sanitation facilities such as septic or pit toilets<sup>4</sup>. Consequently, emptying services are essential without which informal pit emptiers would resort to unsafe emptying and illicit dumping of faecal sludge posing environmental and health risks.

Therefore, to address persistent issues facing FS service provision in small and medium sized towns in Northern Uganda, such as unregulated disposal of Faecal Sludge by private operators, and long response time to customers emptying needs due to communication gap resulting into low safe emptying practices and sometimes abandonment of latrines and long haulage distance.

The Ministry of Water and Environment (MWE) with support from partners like the German Development Corporation and other development agencies have invested in deploying innovative approaches to ensure improved FSM in Uganda. However, ensuring sustainability requires digital web-based mobile applications like the Weyonje App<sup>5</sup>.

# SOLUTIONS

## Weyonje North: A digital web based mobile application

Based on benchmarking from a successful implementation of “Weyonje” application in Kampala city by Kampala City Council Authority (KCCA), Northern Umbrella of Water and Sanitation (NUWS) piloted a digital mobile application known as “Weyonje North” to ensure sustainable Faecal Sludge Management in Apac and Anaka cluster towns of Aduku, Ibuje, Amuru, Koch Goma, Apac, Olwiyo, Purongo and Anaka. A step-by-step approach to implementation was adopted whereby the mobile application was developed, tested and users trained by a resource person with robust experience in managing the application.

The Weyonje North app, which is a digital tool was installed by sanitation service providers including Aswa Connection Ltd (cesspool lessee) and Lengo Ber Sanitation Ltd (Gulper operator), sanitation promoters like Town Council / municipality health inspectors, VHTs and Sanitation marketers, allowing them to efficiently manage and track FS emptying jobs from the time the emptying customer is acquired, emptying service provided and the FS is safely disposed of. The app enabled users to record emptying job details, track emptying orders, and record financial transactions, culminating in the creation of a comprehensive FSM business monitoring platform. The periodic data generation capabilities of the app for strategic business decision making presented a viable business case for emptying entrepreneurs and other stakeholders hence ensuring smooth buy-in, underscoring the importance of accurate data capture along the way.

Generally, the application was easy to navigate by a regular smartphone user following a one-day training on how to capture data regarding emptying services and given the high readiness by NUWS and the low implementation complexity of the application, it only required medium Information and Technology expertise to monitor the system by NUWS to ascertain if data had been generated.

Community members can also leverage the Weyonje app to request pit emptying services, facilitating timely and responsive sanitation management. A pivotal feature of the app is its GIS mapping capability which offers real-time insights into the whereabouts of pit latrines across the city. This feature is instrumental for sanitation service providers other key stakeholders in optimising their service routes, giving priority to the most critical area and guaranteeing comprehensive coverage.

---

3 MWE Water and Environment sector performance report 2020

4 Ibid 2

5 Weyonje loosely translated as “Clean up” in Luganda is a Geographical Information System (GIS) enabled mobile application.

# SUCCESS STORIES

## **The applications enhanced the adoption of FSM services**

It was recognized that web-based applications like Weyonje north collect valuable data that can be used for informed decision-making, including information on the state of pit latrines, frequency of emptying, and the spread of FSM services throughout the small and medium sized towns. This data-driven approach would enable key stakeholders including local governments, development partners and the private sector to continuously monitor and improve FSM services based on targeting the areas particularly in need.

## **The application contributed to positive sanitation behaviour change**

The Weyonje North app went beyond its operational capabilities, fostering community engagement and awareness about the importance of proper sanitation through the app, residents would receive information on sanitation best practices, waste disposal, and the consequences of poor hygiene. This educational component helped change behaviours and promoted a culture of cleanliness among the community.

## **Provided metrics for identifying communities in need of additional sanitation resources**

During the pilot, it was observed that the Weyonje North app collected and analysed a range of data which could be utilized for effective sanitation planning and resource allocation. Data points included customer details such as name, gender, and contact number, along with specifics of the sanitation service provided: the type of facility emptied, service provider details, customer location down to the town council, division and parish, and the volume of sludge removed. This data also recorded the FS disposal locations and the type of service provider (cesspool or gulper). Therefore national, local governments and other key FSM stakeholders would analyse these metrics for informed planning and identifying communities in need of additional FSM resource.

# LESSONS LEARNED

## **Wider usage requires mass ownership of smart phones and internet access**

It is worth noting that operationalization of the Weyonje app required ownership of smart phone and access to internet by users like the VHTs, Health Inspectors, service providers and the community therefore this approach required working with those who already had the smart phones which was critical in reducing the initial investment cost of implementation of the approach.

## USEFUL LINKS

<https://use.metropolis.org/case-studies/the-weyonje-app#casestudydetail>.

<https://www.kcca.go.ug/news/753/kccas-weyonje-innovation-shortlisted-for-prestigious-international-award>.

[https://sdgs.un.org/goals/goal6#targets\\_and\\_indicators](https://sdgs.un.org/goals/goal6#targets_and_indicators)

[https://www.fsg.org/blog/running-empty-challenges-faced-private-pit-emptiers-urban-uganda/#\\_ftn1](https://www.fsg.org/blog/running-empty-challenges-faced-private-pit-emptiers-urban-uganda/#_ftn1)

## FURTHER READING AND REFERENCES

*"Weyonje North": A Web-based Application for Tracking Safe Emptying, Transportation and Disposal of Faecal Sludge in Northern Uganda.* 2023. Kampala: KCCA

Sanitation for Millions, S4M Uganda factsheet: *Safely managed sanitation for Institutions and communities.* 2024. Bonn: Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH.

Felix Twinomucunguzi, Trinh Kyomugisha, Joan Asiimwe, Fred Nuwagaba, and Prit Salian, *Inclusive Urban Sanitation Stories: Financing incentives for improved access to safe household sanitation in Northern Uganda.* 2023. London: International Water Association.