



ACTION RESEARCH PROJECT
Technology, Safety and Cost



Advancing Urban Sanitation

Strengthening Pit Emptying Capacity in Kampala
Through Practical Training and Innovation





The Kampala FSM Action Research Project team completed a comprehensive refresher PuPu pump training program in October 2025.

In rapidly growing urban centers like Kampala, effective waste management and sanitation services are critical to public health and environmental sustainability. Efficient pit emptying operations form the backbone of urban faecal sludge management infrastructure, yet many communities struggle with inconsistent service delivery and inadequate operational monitoring.

The PuPu pump is a semi-mechanised, portable latrine emptying technology.

PuPu stands for Pull and Push. The pump is placed near the latrine where it pulls the sludge through a suction hose using vacuum. It then pushes the sludge through a layflat hose to a tank and vehicle of choice parked at distance. It is designed to handle various sludge types, from watery sludge to thicker sludge filled with debris and to reduce contact with sludge while emptying.

Over two intensive days, members of the Gulper Association of Uganda participated in hands-on training sessions led by Opero's technical team. The training covered:

1. Pump Assembly & Configuration

Participants mastered the technical aspects of assembling PuPu pumps, ensuring each unit meets optimal functionality standards before deployment.

2. Field Operations & Best Practices

Through practical field exercises, teams gained real-world experience in operating equipment under various conditions including line, unlined pits and septic tanks, preparing them for the diverse challenges encountered in urban sanitation work.

3. Preventive Maintenance

Technicians learned systematic maintenance protocols designed to extend equipment lifespan, reduce downtime, and ensure consistent performance in demanding field conditions.

Ideally, the pump is operated by 3 persons who; handle the suction hose inside the latrine, control the pump, manage the delivery hose and discharge to a tank.





Tracker Installation

During the 2 days training we successfully installed state-of-the-art tracking systems on one of the PuPu pumps operating throughout Kampala, working alongside Aqua Delta's technical team and Opero technicians. The trackers enable:

- Real-time monitoring of pump operations across the city
- Data-driven insights for service optimization
- Enhanced accountability in service delivery
- Improved response times to community sanitation needs

Partnership for Impact

This initiative exemplifies/shows the power of collaborative action, bringing together key stakeholders committed to improving sanitation outcomes:

- Kampala Capital City Authority (KCCA): Providing governance oversight and coordinating city-level sanitation planning
- SWARS-IC: Serving as the implementing partner for the Sanitation Action Research project
- Opero Services: Enabling use of improved sanitation equipment in East Africa
- Practica Foundation: The brains behind innovation of the PuPu pump
- Aqua Delta: Providing innovative tracking technology and tracker monitoring training.

Looking Ahead

The successful completion of this training represents an investment in people, systems, and sustainable service delivery. By equipping sanitation workers with advanced tools and comprehensive training, we are building a foundation for:

- More reliable and efficient sanitation services
- Improved public health outcomes in underserved communities
- Enhanced professional development opportunities for sanitation workers
- Scalable models that can be replicated in other urban centers

As we move forward, the data collected through the tracking system will inform evidence-based decision-making, helping stakeholders optimize service delivery and allocate resources where they're needed most.



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THANK YOU!



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For more information about this project or partnership opportunities, please contact our team.



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