



OPERO

# OPERO

## *Scaling WASH Enterprise and Innovation*

**Project Portfolio**

[www.opero-services.com](http://www.opero-services.com)



# OPERO Offerings

Founded in 2019, OPERO Services is an **engineering and business development firm** that offers practical expertise in **water, sanitation and hygiene** technologies and business models that work in the East African context.



Scaling WASH  
Innovation



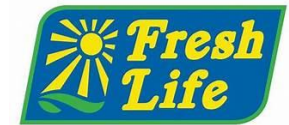
Scaling WASH  
Enterprise



Market research



# Clients & Partners



# Core Team



**Nicola Greene**  
Director



**Robert Gitachu**  
Business Development  
Lead



**Edwin Mariita**  
Technical Lead



**Jeff Walcott**  
Startup Business  
Consultant



**Patricia Omondi**  
Project Support & Learnings



**Aggrey Osogo**  
Operations Lead



**Lisa Ngowe**  
Admin & Finance



**Stacy Oduk**  
Sanitation Business  
Development

# Our Impact



**\$1,100,000**

Facilitated investment in  
WASH businesses



**15**

Projects successfully  
completed



**5**

New & existing WASH  
technologies designed & tested



**17**

WASH enterprises trained



**3**

WASH Business Accelerator  
Designed and Delivered



**Increased**

Access to safe water &  
sanitation systems



# Scaling WASH Innovation

We help identify, test and deploy technologies to the East African market

## PuPu Pump

A small scale, mobile sludge pump.  
[www.pupupump.com](http://www.pupupump.com)

Year: 2022-2023

Client: **PRACTICA**  
FOUNDATION

### Highlights

- Field testing of the technology in Kisumu using manual pit emptiers
- Market insight and product improvement support to position for larger scale deployment to the East African market
- Standardized testing and information dissemination under the sanitation technology centre



## Humanitarian Sanitation Solution

A modular human waste treatment system for use in humanitarian settings

Year: 2022 -2023

Client:  **ETH4D**

### Highlights

- Installation of a pilot under the WASH Technology Hub in Kisumu, Kenya
- Monitoring the performance of the treatment line
- Optimization of the treatment unit by integrating the user experience feedback into the design
- Expansion to live trial in Uganda





## Honey Dipper

A technology that automatically and incrementally extract & dries waste from pit latrines for safe and cost-effective transport

Year: 2021/22

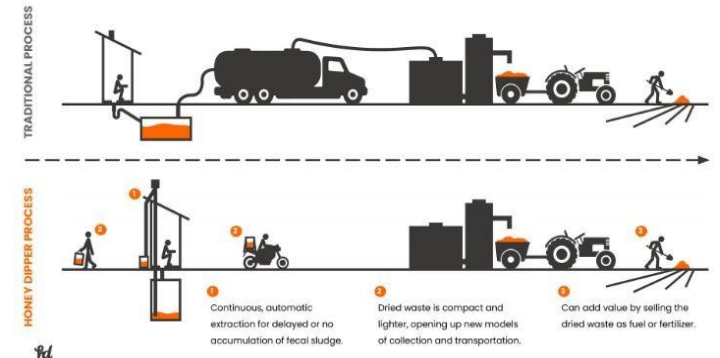
Client: **FACTOR[e]**  
VENTURES

### Project Highlights

- Installed and tested the technology in Kisumu, Kenya under the Sanitation technology centre
- Technical feedback on product improvement
- Market research and sizing to determine suitability of the technology in the Kenyan market



### INNOVATING ON THE SANITATION VALUE CHAIN



## Green Latrine

Efficient and low-cost solution for treating effluent and leachate from domestic sources using Vetiver grass

Year: 2021

Client:  FINISH MONDIAL

### Project Highlights

- Installation of a pilot in Busia, Kenya
- Monitoring the performance of the treatment line
- Development of design manual and M&E framework
- Expansion to launch as product in Western Kenya



## Dewatering Test Rig

A simple and low cost fecal sludge dewatering rig.

Year: 2019 -2021

Client: **SANERGY**

### Project Highlights

- Designed and installation a dewatering trial process for fecal pit latrine sludge
- Conducting of sludge dewatering trials
- Guided dewatering research and decision making strategy



A photograph of five men standing in front of a green truck. The truck has 'JUNKY BINS' and the number '206260' written on its side. The men are dressed in various work clothes, including green jumpsuits and a grey t-shirt. The image is overlaid with a semi-transparent dark green filter.

## Scaling WASH Enterprise

‘We help businesses optimize and grow their services through training, strategy development and operational support’

## Sanitation Enterprise Centre

A centre that aids in the training, launch and growth of service providers increasing safe access to emptying and transport of faecal waste.

**Year:** 2021-

### Highlights

- Worked with sanitation enterprises to enhance their operations & customer base
- 70,000 + people serviced
- Purchase of vehicle and innovative pump for private sector under lease to won model



## WAKE UP Accelerator program

A business accelerator program providing concerted, sector and context-specific business development support for scaling-up WASH & water resource management (WRM) businesses in Kenya.

Year: 2021

Partners:



### Project Highlights

- 10 WASH businesses trained
- \$1,000,000 raised to support the 2021 cohort
- Enterprises connected to investors



**WA-KE UP**  
WATER ACCELERATION KENYA

### Call for applications

Join the unique WASH & WRM Business Development and Acceleration Programme in Kenya!

[wakeup@cewas.org](mailto:wakeup@cewas.org)

<https://wakeup.creation.camp/>

Applications open until:





# OPERO

## Rural Water Accelerator

A business accelerator program providing concerted, sector and context-specific business development support for scaling-up rural water businesses in Kenya and Uganda.

Year: 2023

Partners:



cewas



## Project Highlights

- 9 businesses with focus on rural water supply accelerated
- Cross country collaboration – Kenya, Uganda
- Climate emphasis



Apply now  
[rwa.creation.camp](http://rwa.creation.camp)

Submission Deadline  
May 10th, 2023

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cewas



[www.opero-services.com](http://www.opero-services.com)

## Sanitation Accelerator

A business accelerator program providing concerted, sector and context-specific business development support for scaling-up sanitation businesses in Kenya and Uganda.

**Year:** 2023

**Partners:**



**cewas**

### Project Highlights

- 10 sanitation businesses accelerated
- Cross country collaboration – Kenya, Uganda
- Goal to reach 250,000 people with improved sanitation products and services







## Market Research & Consultancy

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‘We provide tailored market insights and in-depth data analysis covering both consumer and the business market in East Africa’

# Alternatives for Non Sewer Sanitation Systems

A countrywide assessment of Public-Private Partnership (PPP) models for non-sewer sanitation (NSS) services.

Year: 2021-2022


Clients:



## Project Highlights


- Development of 5 Market Intelligence Briefs
- Recommendation on potential PPP business models across 5 cities in Kenya
- PPPs to be implemented starting in Malindi (2023)

**Market Intelligence Synthesis Report**  
Market-Based Models and PPP Options for NSS in Selected Cities/Towns in Kenya  
August 2021




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## On-site Sanitation Learning Series

Development of a knowledge base of on-site sanitation technologies to enable service providers, practitioners, and policy makers alike to select, trial and implement the technologies that are most technically and financially appropriate for their context.

Year: 2023-

Partners:



### Highlights

- Development of high quality communication and learning materials for the Gulper and PuPu pump



## Fecal Sludge Treatment Review

A technology selection matrix for managing faecal sludge.

Year: 2021

Client: **SANERGY**

### Project Highlights

- Guided the strategy for sludge treatment, disposal and reuse.
- Developed recommendation of systems & technologies for faecal sludge treatment sites in Nairobi.



# Sanitation Market Assessment of Western Kenya

A market research study to understand the faecal sludge management chain in Western Kenya

Year: 2020

Clients:  Shaping a more livable world.

## Project Highlights

- Development of a report with recommendations for interventions to enhance market-based approaches to sanitation provision in the region.

**KENYA ONSITE SANITATION MARKET INTELLIGENCE** ISSUE 1, OCTOBER 2013

Once an unknown quantity, Kenya's nascent onsite sanitation market is now seen as a major market opportunity. The market for latrine slabs alone is projected to achieve 1.6 billion KES (USD 19 million) in sales in 2014. The World Bank Group's Selling Sanitation initiative is supporting the private sector to understand this opportunity and identify viable market entry strategies. This brief shares market intelligence to encourage industry participation and investment in Kenya's emerging onsite sanitation market.

**Key Statistics<sup>1</sup>**  
(Sanitation slab market estimates)

**PROJECTED TOTAL REVENUE, 2014**  
USD 19 million =  
**1.6 billion (KES)**

**PROJECTED SALES, 2014**  
(Households, HHs)  
**626,800**

**PROJECTED PLASTIC PRODUCT REVENUE, 2017**  
USD 8.2 million =  
**698 million (KES)**

<sup>1</sup>Estimate based on available current market surveys and industry trend data

### Current Market Drivers

- Consumer intentions to improve state of their sanitation facilities.** Consumers are interested in latrine construction and upgrades, if costs are reasonable.
- Customer dissatisfaction with current sanitation options.** Customers want alternatives to open defecation and traditional mud or wood floor latrines. Few options exist between low-quality traditional latrines and "high-end" concrete constructions.
- Households moving up sanitation ladder towards improved sanitation.** Consumer demand is expected to rise due to the Ministry of Health's Community Led Total Sanitation (CLTS) and improved sanitation campaigns.
- Sanitation product innovation opening the market.** Sanitation products are evolving, with emphasis on improving features to meet low-income consumer preferences and offer more value for money.

### Sanitation Facilities in Rural and Peri-Urban Households

Households currently using unimproved sanitation facilities, sharing facilities with other households, or openly defecating represent 80% of the rural and peri-urban sanitation market.

**74% of Kenyan HHs are rural**

Unimproved facility: 47%  
Any facility shared with other household: 17%  
No facility/household: 16%  
Ventilated improved pit (VIP) latrine: 9%  
Pit latrine with slab: 10%  
Flush/toilet flush to piped sewer system, septic tank, or pit latrine: 1%


Source: Kenya Demographics & Health Survey, 2010

### Improved Sanitation Coverage

While improved sanitation coverage has experienced a modest 5% gain in the last 20 years, current market trends suggest an uptick in coverage increase over the short-term.

Source: Joint Monitoring Programme, 2013

### Plastic Product Examples



These new plastic slab products designs are based on in-depth consumer research and address the features that consumers want most – affordability, durability, cleanliness, and ease of use. By offering a range of products, manufacturers and retailers can capture a larger segment of the market.





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