

20th AfWA International Congress and Exhibition 2020

Breaking new grounds to accelerate access to water and sanitation for all in Africa

Supply and Demand: Assessing Costs and Willingness-to-pay for Urban Sanitation in Bangladesh, Ghana, and Kenya

23rd – 24th February 2020, Kampala, Uganda

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AQUAYA INSTITUTE



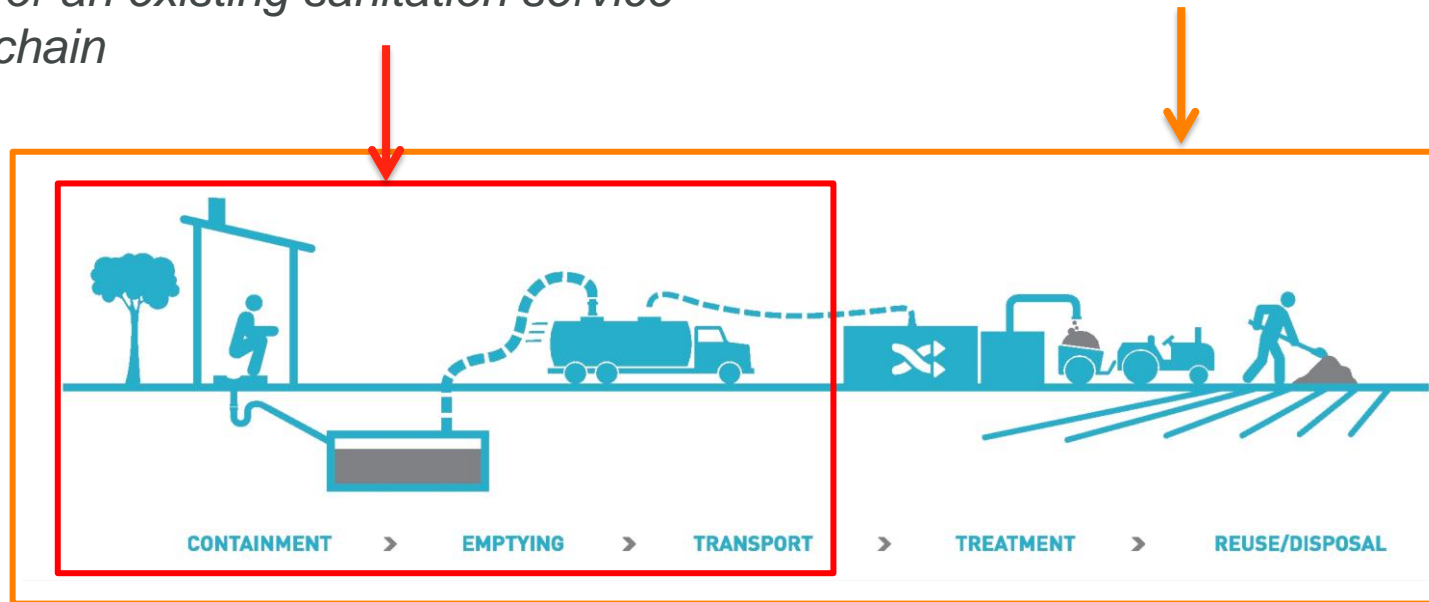
OBJECTIVE



- Understand the extent to which **low-income households** can bear the **financial costs of high-quality sanitation**.

Focus on household-facing costs for an existing sanitation service chain

Estimate city-wide costs



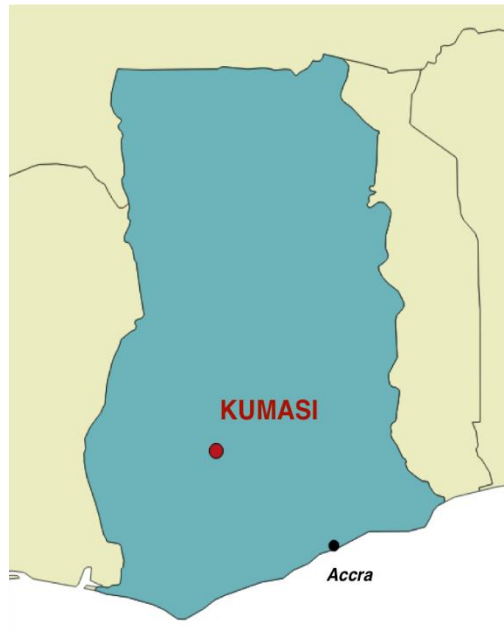
STUDY LOCATIONS



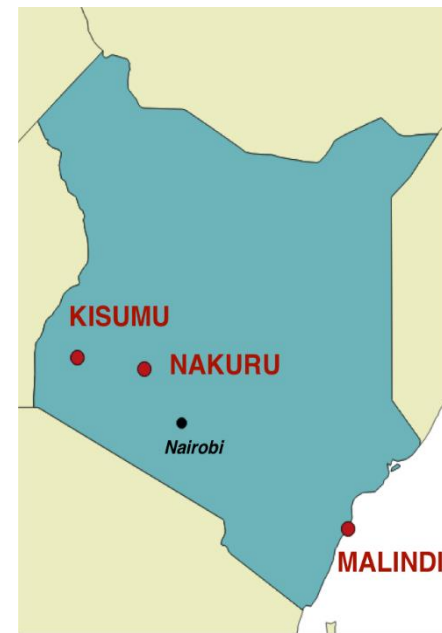
Bangladesh



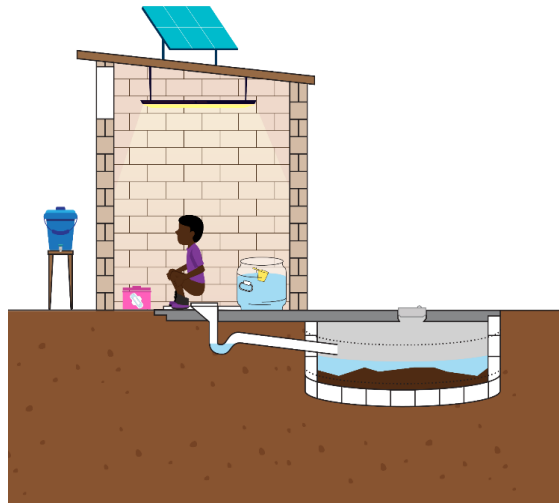
Ghana



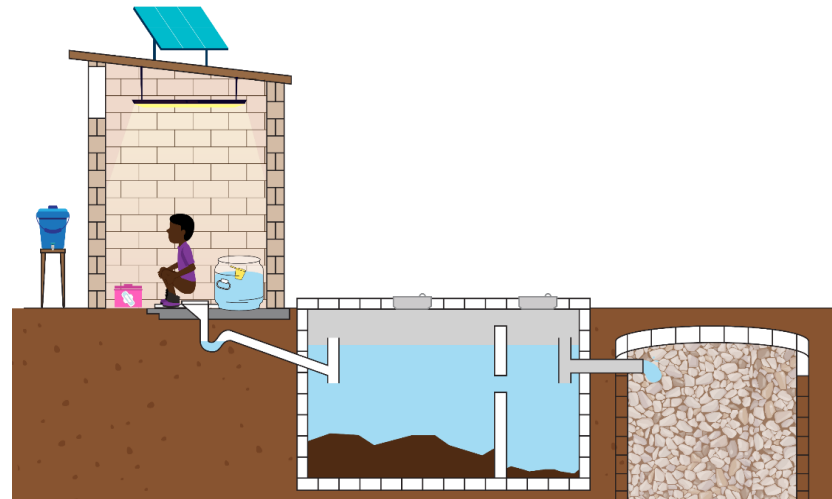
Kenya



SEVEN TOILET OPTIONS (2)

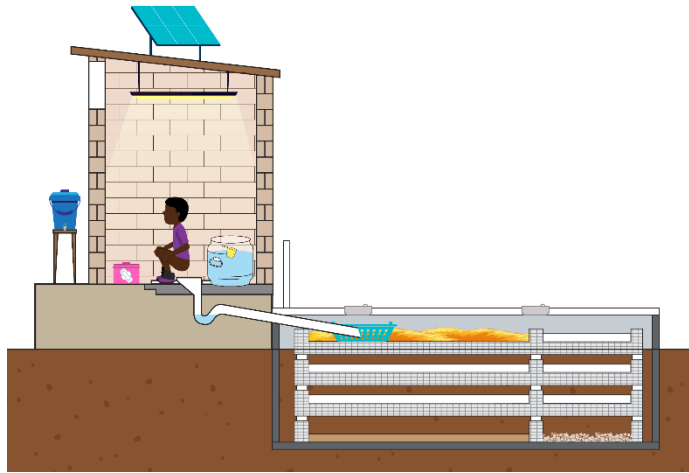


Pour-flush to vault

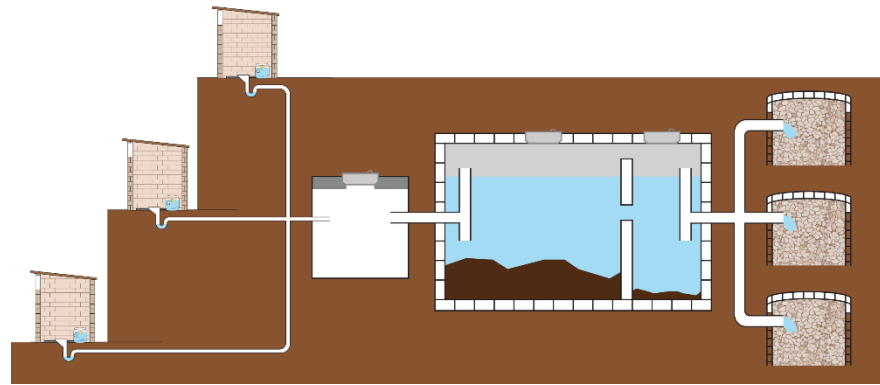


Pour-flush to septic tank

SEVEN TOILET OPTIONS (3)

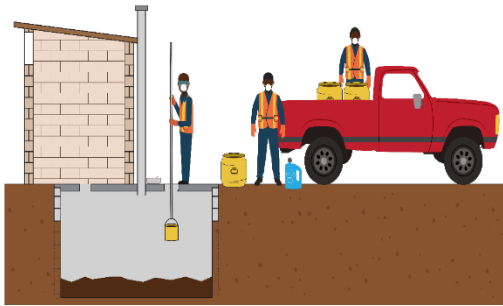


Pour-flush to
biofill

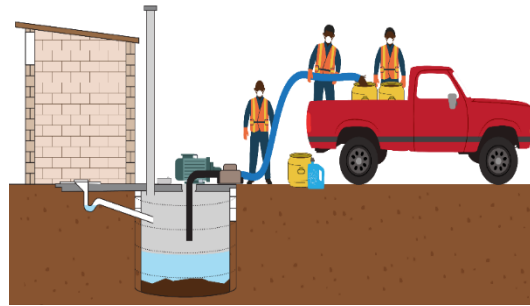


Mini-sewer to
communal septic tank

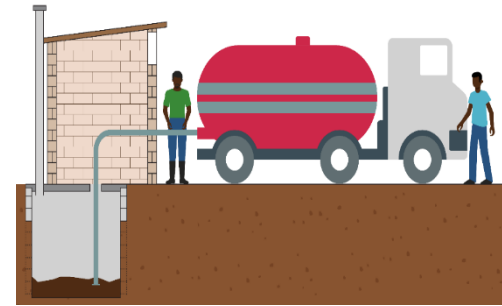
THREE EMPTYING OPTIONS



Trained manual
emptiers



Mechanized
emptiers



Vacuum truck
operators

METHODS

FOR EACH OPTION, WE ESTIMATED COSTS AND WILLINGNESS-TO-PAY



COSTS

- Interviews with households, NGOs, utilities, masons, engineers, hardware stores, emptying service providers.
- Household visits to confirm toilet dimensions and prices
- Cross-checks with literature

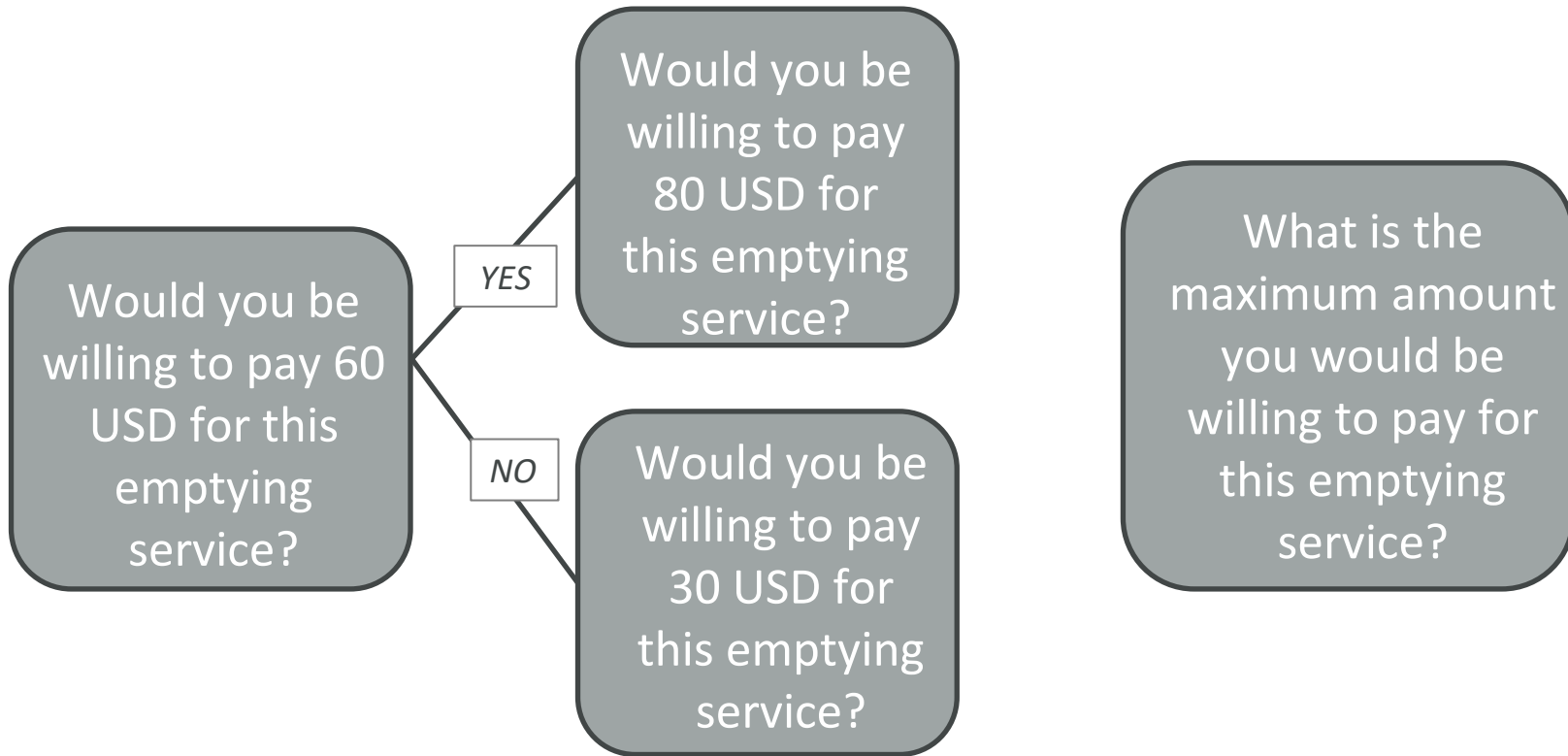
WILLINGNESS-TO-PAY

- Household survey in urban and peri-urban low-income areas
 - Homeowners and landlords living on the premises
 - Do not currently have high-quality sanitation for self and all tenants
- Sample size:
 - Kisumu: 679 respondents
 - Nakuru: 475 respondents
 - Malindi: 422 respondents
 - Kumasi: 401 respondents
 - Rangpur: 410 respondents

High-quality sanitation:

- Improved
- On premises
- Shared by max 3 households

STATED WTP: DOUBLE-BOUND DICHOTOMOUS CHOICE



*Amount randomly selected from:
30; 60; 80; 110 USD*

REVEALED WTP: REAL-MONEY VOUCHER TRIAL



CONGRATULATIONS!

You have received a voucher for a latrine pit emptying service...

Empty your pit* using Gasia Poa for **8,000 shillings!**



Normally, this service costs 14,000 shillings, so you're getting a 43% discount (6,000 shillings off)!

*This voucher provides emptying services using manual emptying up to 80, 50-liter buckets (4 trips). If the contents of your pit exceed this amount, you will be responsible for paying for additional emptying.

You can redeem this voucher by calling:

Dickens 0726801299

Mpesa Transaction # _____

For questions, you can phone Herbert 0743462914 / 0751566077

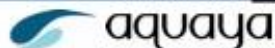
Voucher given on: _____

Voucher expires on:

June 6, 2019

Household ID: _____

Name of person who redeemed: _____



This voucher cannot be redeemed for cash, and cannot be transferred or sold.

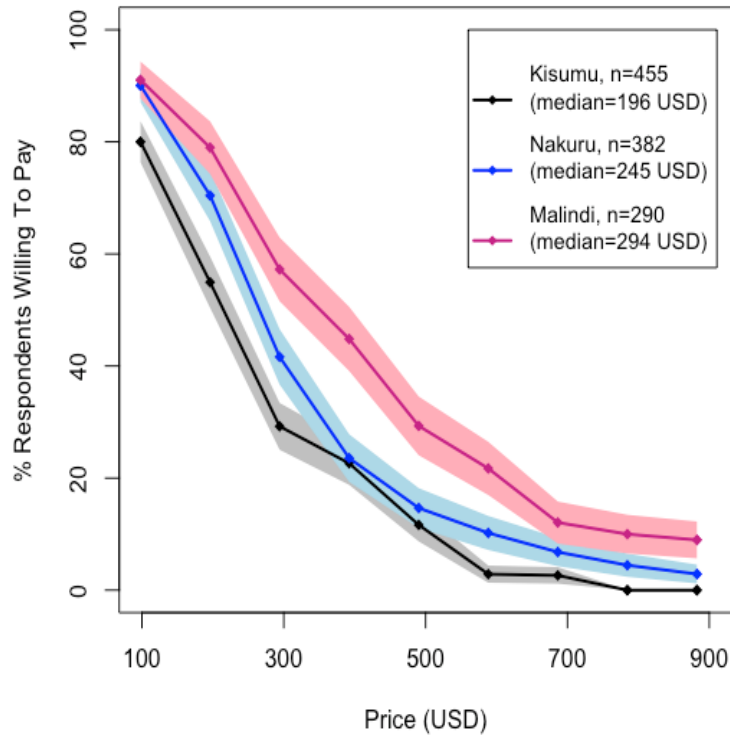


RESULTS

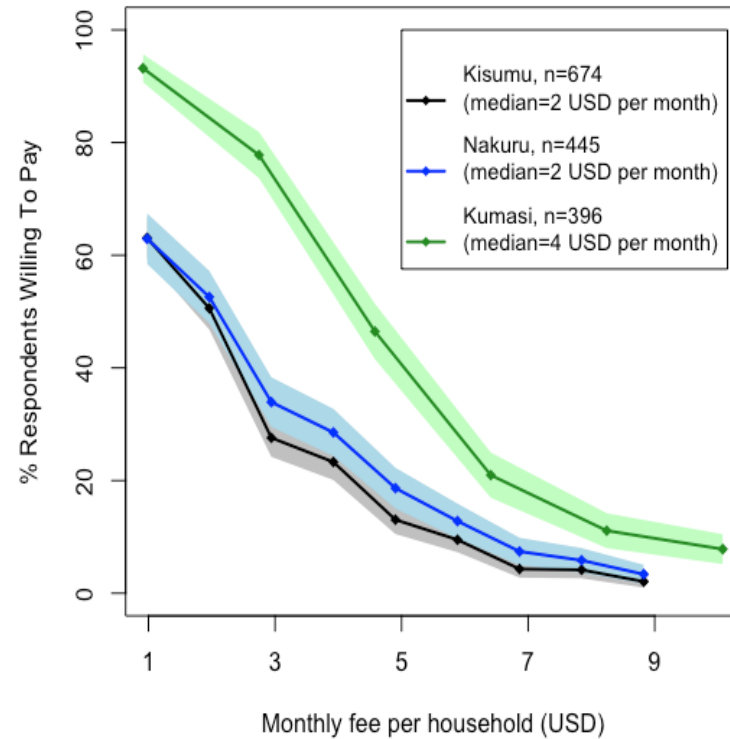
LITTLE DEMAND AT MARKET PRICE



- Pour-flush to pit: 854-1053 USD



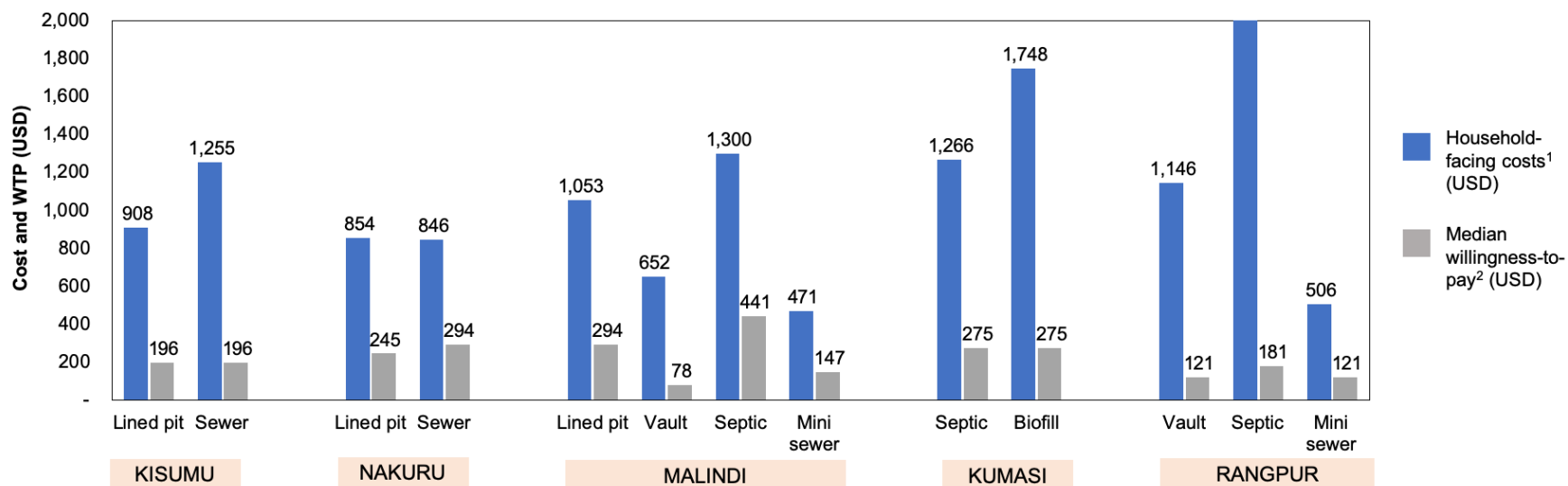
- Container-based sanitation: 6-7 USD/month



WTP IS LOWER THAN MARKET PRICE ACROSS SANITATION OPTIONS



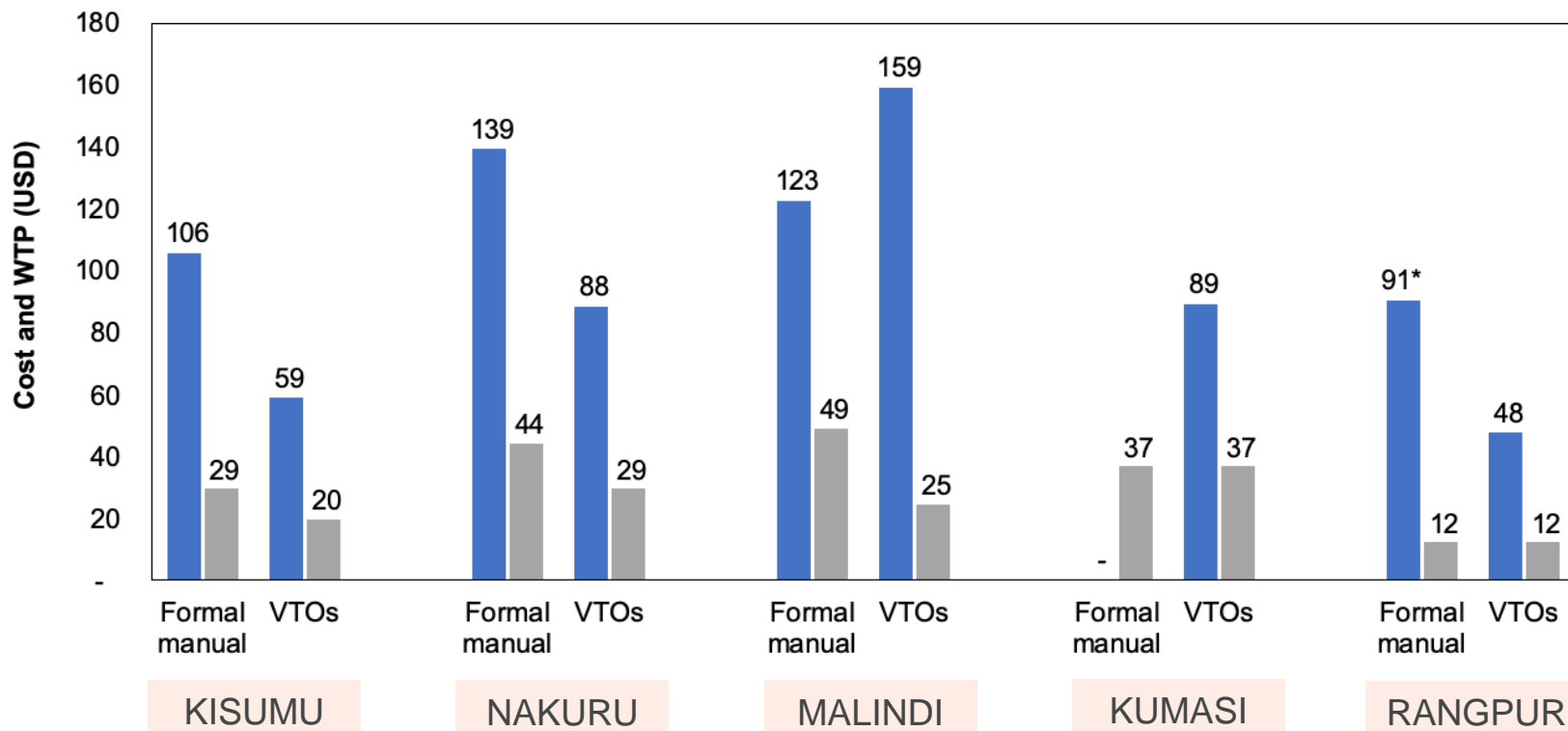
TOILET OPTIONS



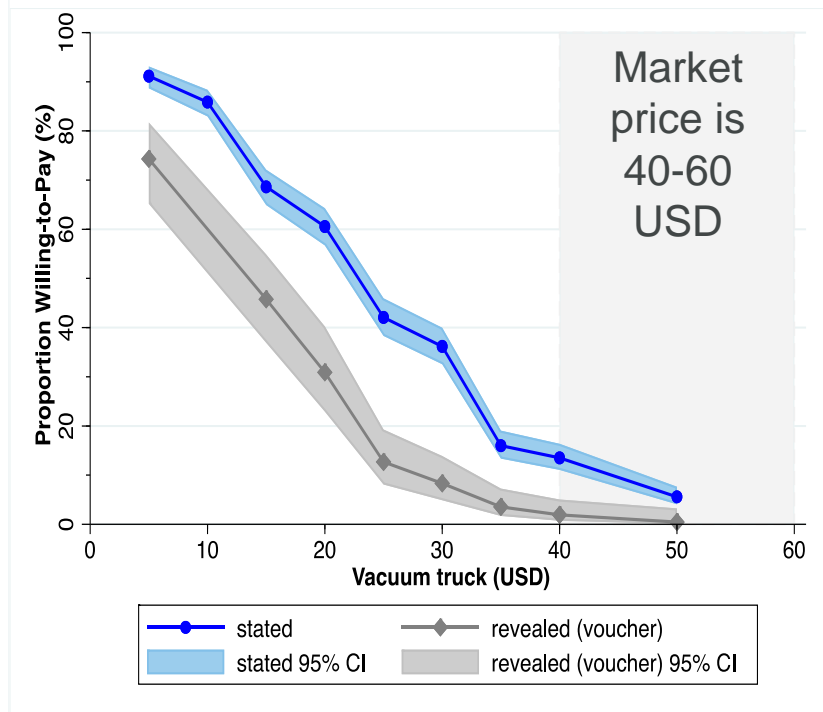
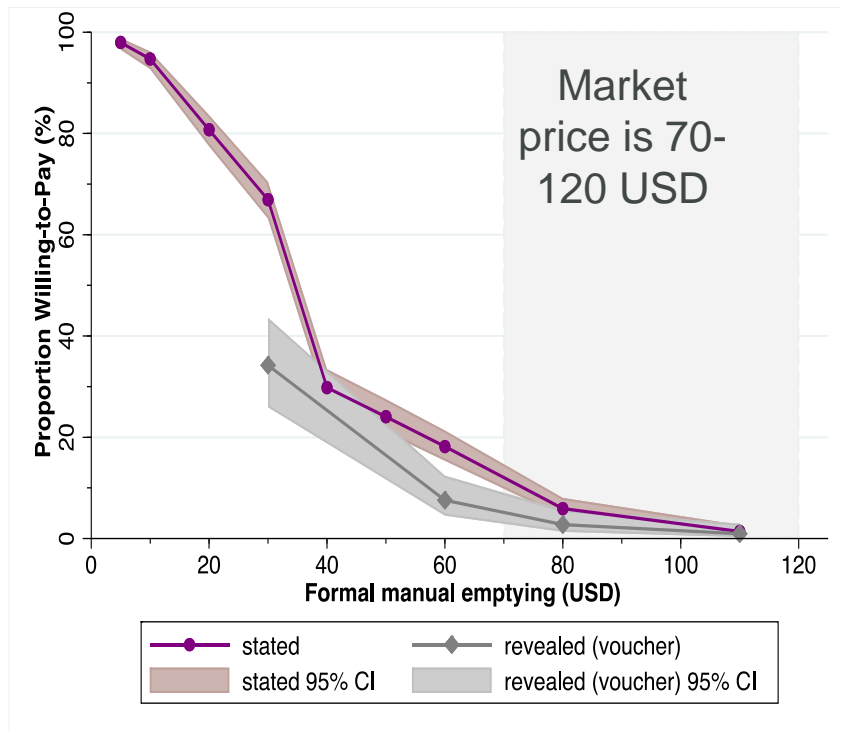
WTP IS LOWER THAN MARKET PRICE ACROSS SANITATION OPTIONS (2)



EMPTYING SERVICES



THE GAP BETWEEN WTP AND MARKET PRICE IS EVEN LOWER FOR REVEALED (VOUCHER) WTP.



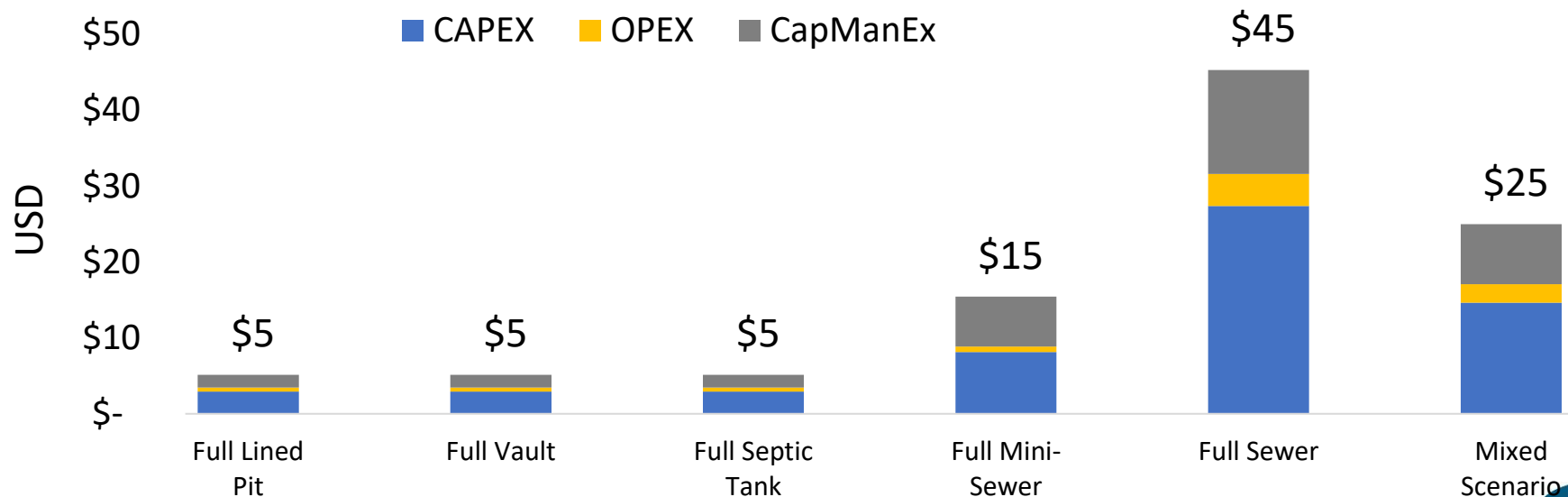
Exchange rate: 1 USD = 100 KES

CITY-WIDE COSTS VARY DEPENDING ON THE SANITATION OPTION



MALINDI, municipal costs for different scenarios

Presented as average Net Present Value per household per year



CONCLUSIONS

- There is a **substantial gap** between WTP and market prices for safely-managed sanitation options.
- Actual gap may be likely higher: **revealed WTP was lower than stated WTP.**
- This gap calls for **household-level subsidies.**
- **Municipal expenses** will depend largely on the sanitation options selected.



ACKNOWLEDGEMENTS



Urban Sanitation
Research Initiative

WSUP | Water & Sanitation
for the Urban Poor





20th AfWA CONGRESS

— YOU ARE WELCOME —

