

Sanitation surcharges: a potential contribution to urban sanitation financing?

Report of a Research and Policy Workshop
Naivasha, 1st – 2nd February 2018

Executive Summary

Financing urban sanitation is a major challenge for Kenya as for other African countries: urban sanitation is very costly, and the full costs are beyond the ability-to-pay of low-income citizens. One approach for part-financing urban sanitation investments is to add a pro-poor “sanitation surcharge” to water bills. Research carried out under the Urban Sanitation Research Initiative Kenya suggests that water utility customers would be willing to pay a significant additional amount to support sanitation improvements for low-income urban citizens. This workshop in Naivasha brought together key representatives from 5 urbanised counties and 6 utilities, together with WASREB, line ministries, WSTF and other relevant actors. The workshop reviewed the research findings, and explored how a surcharge model of this type might be applied in Kenya. This report summarises outcomes of this workshop, and recommends that a sanitation surcharge (“Sanitation Development Fee”) should be piloted in at least one city, to further explore how it might be implemented. Workshop participants were unanimous in supporting this model, and in recommending that piloting should commence soon.

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This workshop was held at Enashipai Resort (Naivasha) on the 1st and 2nd of February 2018. The workshop was convened by WASREB, and facilitated by Guy Norman PhD, Director of Research & Evaluation at Water & Sanitation for the Urban Poor (WSUP); this was a collaboration under the Urban Sanitation Research Initiative Kenya, a programme of research in partnership between WASREB, Ministry of Health and WSUP. Representatives from 5 county governments and 8 water utilities participated, alongside other key stakeholders including researchers from consultancy Aquaya, who presented their recent study “*Analysis of factors influencing willingness of water customers in Kenyan cities to pay a pro-poor sanitation surcharge*”. Participants were as follows:

Name	Organisation	Designation
Bob B. Busungu	Uasin Gishu County	Director of Water
Albert Cheruiyot	Uasin Gishu County	Senior PHO Urban
Richard Cheruiyot	WASREB	Manager-Inspectorate Services
Isaac Chibule	MAWASCO	Technical Manager
Caroline Delaire PhD	Aquaya	Research Program Manager
Andrew Foote	Sanivation	CEO
James Gachathi	NAWASSCO	MD
Eng. Robert Gakubia	WASREB	CEO
Charles Gathara	Nairobi County	Water Department Director
Eng. Moses Jura	KIWASCO	Technical Manager
Mary N. Kamau	Kiambu County	EIA Lead, rep Water CEC
Zaitun Kanenge	NAWASSCO	LIC Manager
Elsie Kapule	WSUP Kenya	Programme Administrator
Jimmy Kemboi	ELDOWAS	MD
Albert Kiarie	Kiambu County	Senior PHO, rep health CEC Kiambu
Joyce Kisiangani	Aquaya	Research Associate
Doyle Leonard	Ministry of Health	Senior PHO
Josphine Maina	WSUP Kenya	Research & Policy Lead
Francis Maluki	WASREB	Technical Officer
Kariuki Mugo	WSUP Kenya	Country Programme Manager
Mary Mwangi	RUJWASCO	Technical Manager
Paul Mwaura	NAIVAWASS	LIC Manager
Rachel Ng'ethe	NCWSC	LIC Manager
Eng. Rose Ngure	Ministry of Water and Sanitation	Deputy Director, Department of Water and Sewerage Services
Eng. Peter Njaggah	WASREB	Director-Technical
Eng. Festus Ngeno	Nakuru County	CEC Water
Guy Norman PhD	WSUP	Director of Research & Evaluation
Dickson Ochieng	SANIVATION	Manager, Govt relations
Isaac Okoyo	MOWASSCO	LIC Manager
Salmon Orimba	Kisumu County	CEC Water
Patrick Ronoh	Aquaya	Research Assistant
Arthur Shikanda	Kisumu County	Director of Public Health
Stella Warue	WSTF	AG. Manager - Urban Investments



1) Background: urban sanitation in Kenya

Poor sanitation costs Kenya 27 billion KSh every year. The World Bank estimates that poor sanitation costs Kenya 27 billion KSh (US\$ 270 million) per annum, as a result of reduced productivity, healthcare costs, and premature deaths.¹

Kenya lags behind other African countries in urban sanitation. Only 35% of the Kenyan urban population has basic sanitation, below the average for sub-Saharan Africa (41%). For comparison, the figure in South Africa is 76%.²

The National Water Master Plan 2030 sets ambitious goals for urban sanitation. Sewerage is planned to increase from 18% coverage in 2013 to 80% coverage in 2030, and 95 urban areas are targeted for off-site sewerage systems.³

The projected cost of achieving these goals is 500 billion KSh (US\$ 5 billion). This projection, for the 17-year period 2013–2030, includes network expansion (458 billion), network rehabilitation (18 billion) and O&M over this period (25 billion).

The current allocation from the Government is only 31 billion KSh. In other words, only 6% of the total of 500 billion is covered, leaving a financing gap of 469 billion KSh. How can we fill this gap?

2) Options for financing urban sanitation

Urban sanitation improvements can be paid for through some combination of the **3Ts**: tariffs, taxes and transfers. **Tariffs** are what citizens pay directly for a service received (to a utility, or a county, or a private operator). **Taxes** are what citizens pay to government to support spending in the public good. **Transfers** are funds from development partners: clearly important in the short term, but very possibly not sustained in the medium to long term.

Effective urban sanitation systems (whether sewerage networks or off-site systems) are expensive, and typically beyond the ability-to-pay of low-income urban citizens. Given that many of Kenya's urban citizens are slum-dwellers, there can be little doubt that achieving Kenya's urban sanitation goals cannot be based on tariffs alone, but that it will require very substantial subsidy derived from taxation and/or cross-subsidy.

This workshop focused on one particularly promising mechanism for raising cross-subsidy finance: sanitation surcharges on water bills. **However, all participants in the workshop were in strong agreement that sanitation surcharges can only be only a partial solution: achieving urban sanitation coverage will require a major increase in government allocation of general budget.**

¹ World Bank Water & Sanitation Programme “*Economic Impact of Poor Sanitation in Africa*” (2012). US\$ equivalents here and elsewhere in the text are based on February 2018 exchange rates.

² 2015 data from WHO/UNICEF: 31% of the urban population are estimated to have sanitation status of “basic” or better, as per the WHO/UNICEF Joint Monitoring Programme (JMP) definition of “basic”. See “Progress on Drinking Water, Sanitation and Hygiene - 2017 Update and SDG Baselines”, WHO/UNICEF JMP.

³ Data from WASREB 2018.

3) What is a sanitation surcharge?

A sanitation surcharge, as defined for the purposes of this workshop, is a small additional amount added to water bills to support sanitation improvements in unserved communities.

The closest existing model of a sanitation surcharge is seen in Zambia, where a surcharge is added to water bills. So a Zambian water utility customer connected to both the water network and the sewerage network pays a monthly bill with the following components:

Water tariff (calculated on the basis of a fixed charge and a volumetric charge)	\$37.50
Sewerage tariff (calculated as 40% of the water tariff)	\$15.00
Sanitation surcharge (calculated as 4% of the water tariff amount)	\$ 1.50
TOTAL	\$54.00

The example shown here is for a Lusaka customer consuming the average of 70 m³ of water per month. The precise calculation is in fact 100 Zambian kwacha per m³ of water consumed, but this works out at about 4%.

This is essentially the model proposed for Kenya by WASREB and other actors. It should be stressed that the *sewerage tariff* is a payment for services received, whereas the proposed *sanitation surcharge* is a cross-subsidy amount to support sanitation in communities which do not have sewerage or other forms of sanitation service: sewer-connected customers would be expected to pay both the sewerage tariff (for their own sewerage services) and the sanitation surcharge (to support improvements in unserved communities).

4) Why this workshop?

In order to explore the potential applicability of a sanitation surcharge model in Kenya, the Urban Sanitation Research Initiative Kenya (partners WASREB, MOH and WSUP)⁴ commissioned a study exploring the willingness of Kenyan utility customers to pay a surcharge of this type. The research was carried out by research consultancy Aquaya. This workshop aimed **a)** to present the findings of this research to key Kenyan urban counties and their water utilities, **b)** to explore interest among counties and utilities in models of this type, and **c)** to consider in detail what a sanitation surcharge model might look like in the Kenyan context. There was clear, unanimous and strong positive interest in this idea among the counties and utilities represented at this workshop: all participants without exception judged this to be a very promising idea which should be piloted in the near future in at least one location. This report thus focuses on **a)** the findings of the Aquaya research, and **c)** discussions around what a sanitation surcharge might look like in Kenya; additionally, this report presents **d)** recommendations including proposed next steps.

⁴ www.wsup.com/research

5) Research findings: are people willing to pay?

Background

In urban Kenya, 45% of people have piped water on their premises. Conversely, 69% of people use shared or unimproved sanitation, or have no sanitation. Can the former (at least those paying a water bill) partially cross-subsidise sanitation improvements for the latter? Consumer cross-subsidy models exist in other Kenyan sectors, including the electricity sector and the fuel sector.

Objectives

- To determine utility customers' willingness-to-pay a pro-poor sanitation surcharge
- To investigate factors that may influence willingness-to-pay:



Methods

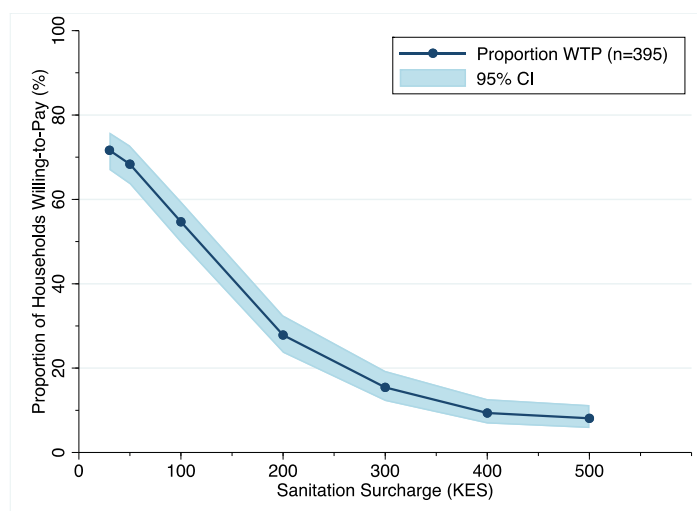
Two utilities were selected: NAWASSCO, with 39,528 customers and a sewerage coverage rate of 40%, and RUJWASCO, with 14,446 customers and a sewerage coverage rate of 0.5%.

Research was based on initial *qualitative* data collection (39 interviews with customers, 4 focus group discussions with customers, 29 key stakeholder interviews); followed by *quantitative* questionnaire survey of 402 utility customers, stratified by income level.

For more details of methods and findings: see presentation attached as Appendix.

Findings

The minimum payment amount proposed in questionnaires was 20 KSh per month. 75% of customers indicated that they would be willing to pay that amount. The proportion indicating willingness-to-pay declined as the amount decreased (evidently). Medium willingness-to-pay was 100 Ksh per month: in other words, 50% of customers indicated that they would be willing to pay 100 KSh or more.



Willingness-to-pay was not strongly affected by billing mechanism (flat amount, or proportional to water bill): however, there was a slight preference for flat payment.

Factors found to significantly affect willingness-to-pay were:

- **Trust:** Willingness-to-pay tended to be higher among respondents who indicated that they trusted the utility to manage the sanitation surcharge funds correctly.
- **Solidarity:** Willingness-to-pay tended to be higher among respondents who indicated strong feelings of solidarity with poor citizens.
- **Satisfaction with own services:** Willingness-to-pay tended to be higher among respondents who were satisfied with their own water services.

Corruption was the most frequently cited concern: for example, one customer stated “*I think one of the most discouraging things in Kenya is corruption which permeates the whole society... it even prevents me from contributing because I think I am enriching the already rich*”.

Minimum willingness-to-pay (at least 20 KSh per month) was higher in Nakuru (85%) than in Ruiru Juja (58%). This may reflect higher levels of customer satisfaction in Nakuru.

Conclusions

- 75% of customers are willing to pay some amount on their water bill as a pro-poor sanitation surcharge.
- At the median willingness-to-pay of 100 KSh/month, introduction of a surcharge of this type across all 91 regulated water utilities in Kenya could potentially raise as much as 1.6 billion KSh annually for sanitation improvements in low-income areas.
- If introduced, messaging around *trust* and *solidarity* is recommended.

6) Discussion: sanitation surcharge design

As noted, there was unanimous consensus among workshop participants that a pro-poor sanitation surcharge is a promising idea.

Following presentation of the Aquaya research findings, workshop participants dedicated significant time to considering exactly what a sanitation surcharge might look like in the Kenyan context. Specifically, the following questions were discussed:

- a) What would it be spent on? (what technology?)
- b) Who would it be spent on? (which groups would benefit?)
- c) Who would pay it?
- d) How would it be regulated and managed?
- e) What would it be called?

a) What would it be spent on? (what technology?)

There was unanimous consensus among workshop participants that this surcharge should be technology-neutral: in other words, it should be spent on that sanitation technology (piped sewerage or non-sewered systems) which best meets the requirements of the intended beneficiaries.

However, there was also unanimous consensus that, in the majority of cases, the most appropriate solution for low-income communities will be non-sewered systems. In a few special cases, sewer connection of low-income communities is potentially achievable because sewer mains already run close to low-income settlements; but in most cases sewer connection of low-income communities will not be financially achievable within the period to 2030, and therefore sanitation improvements for low-income urban communities will, in most cases, need to be non-sewered solutions (toilet improvements and associated faecal sludge management services; or similar alternative approaches such as container-based sanitation).

b) Who would it be spent on? (which groups would benefit?)

The Aquaya research was predicated on questions around willingness of utility customers to pay a *pro-poor* sanitation surcharge: in other words, the nature of the beneficiary group was defined (poor citizens) in the willingness-to-pay assessments.

However, several workshop participants noted that it may be politically challenging to spend all the revenue raised by a future surcharge on low-income communities, given that many middle-income utility customers are not currently connected to sewer systems. The argument here is that such customers will pay a surcharge only if they see benefit themselves.

There was some disagreement on this issue: some workshop participants argued that a future surcharge should be strictly ring-fenced for sanitation improvements for poor citizens; others argued that a future surcharge should be distributed perhaps 60/40 among poor and non-poor beneficiaries. WASREB representatives argued for the former model (strictly pro-poor), and workshop facilitator Guy Norman suggested that, if not strictly defined as pro-poor, *“there is a clear risk that in 10 years’ time people will look back and see that 95% of the money was in fact spent on sewerage extension for the non-poor”*. By contrast, a number of county and utility representatives argued for the 60/40 model, perhaps reflecting the aspiration to finance sewerage extension, and/or recognising “realpolitik”.

c) Who would pay it?

There are a number of possible models: payment could be by all of a water utility's customers; or all customers with an individual household connection (i.e. surcharge not charged to kiosk operators); or only sewer-connected customers (i.e. surcharge not charged to customers with water but no sewer connection).

There was clear and unanimous consensus that payment should be by *all of the utility's customers*.

If considered appropriate, the system could be designed to vary the *amount* payable by different customer groups: for example, if the surcharge amount were calculated as a proportion of the water bill amount, then people with high water bills (possibly through not necessarily correlated with wealth) would pay more. One option would be for customers with a sewerage connection to pay more (this could be achieved if the surcharge amount were calculated as a proportion of the total water+sewerage bill amount); alternatively or additionally, large commercial/industrial consumers might pay a higher proportional amount. It would be possible to charge a simple flat amount across all customers, though this might (?) be considered less equitable, and might (?) raise less money. These questions were not discussed in depth in the workshop, and would likely need to be explored in any future roll-out of a sanitation surcharge.

d) How would it be regulated and managed?

There was clear and unanimous consensus that any future surcharge (including charging model and expenditure) should be regulated by WASREB.

In terms of on-the-ground technical support and oversight, it may be of value for a Public Health Officer to be seconded to each service provider.

There was also unanimous consensus that all amounts raised should enter a specific account for each utility, managed by a central authority, and that requests for disbursement would be addressed to that central authority. One option would be for this fund to be controlled and managed by WSTF, under the regulatory oversight of WASREB.

e) What would it be called?

Throughout this report, we have used the generic term "sanitation surcharge". At the end of the workshop, participants were asked to vote on a long list of possible names for the surcharge if implemented in Kenya. There was near-unanimous agreement that the surcharge should be called the "Sanitation Development Fee". However, WSUP (as facilitators of this workshop) recommend that this be subject to future discussion, with consideration of possible names that make more explicit the "solidarity with the poor" aims of the proposed surcharge.

7) Recommendations and next steps

- All participants in this workshop unanimously consider that the sanitation surcharge (Sanitation Development Fee) model offers significant promise for contributing towards the urban sanitation financing deficit in Kenya.
- The research carried out by Aquaya clearly indicates that utility customers would be willing to pay a pro-poor surcharge of this type, and the model could potentially raise very significant amounts of money.
- However, this should not be viewed as a sole solution: this can make a significant contribution to the urban sanitation financing deficit, but certainly cannot generate the entirety of the funds required to deliver the vision of Kenya's National Water Master Plan 2030.
- Notably, all participants unanimously agreed that (independently of the introduction of a ring-fenced sanitation surcharge), national government and county governments need to greatly increase allocation to urban sanitation from general budgets.
- All participants unanimously agreed that key actors should act promptly to pilot the sanitation surcharge model in at least one location. Such piloting would (most importantly) need the approval of the county government, allowing the utility to then formally request authorisation from WASREB.
- WSUP, as manager of the Urban Sanitation Research Initiative, indicated strong willingness to allocate research funds to support piloting of the surcharge in one or possibly more locations: WSUP envisages that such support would likely include a) detailed social and financial analysis to support design and delivery of the surcharge, and b) ongoing evaluation of pilot outcomes. WSUP notes that this will only be possible if piloting happens reasonably soon (ideally starting before end 2018), given that current funding of the Urban Sanitation Research Initiative runs only to March 2020.
- The lead actors in taking this concept forward are WASREB and county governments. The participants of this workshop thus request that WASREB circulate this workshop report to the Ministry of Water and Sanitation, to the Ministry of Health, to the Council of Governors and all county governors individually.
- All participants in this workshop unanimously express strong support for taking this initiative forward at least to pilot stage. We believe that the sanitation surcharge model, if properly designed, can make a very significant contribution to financing sanitation for Kenya's low-income urban citizens. We are aware that full implementation of models of this type takes time, and we therefore join voices in urging all actors to move this rapidly forward to a piloting stage. All of Kenya's citizens, including our brothers and sisters who live in slum communities, have the constitutional right to "reasonable standards of sanitation"; and that means now, not in 30 years' time!

Appendix: Detailed presentation of research findings

[full findings will be published in a journal article, not yet submitted]

ARE WATER CUSTOMERS WILLING TO PAY A PRO-POOR SANITATION SURCHARGE?

Dissemination workshop

February 1st, 2018

Joyce Kisiangani, Patrick Ronoh, Caroline Delaire



OUTLINE

Background

Objectives

Methods

Findings

Conclusion

Next steps

BACKGROUND

In urban Kenya:

- 45% of people have piped water on their premises
- 69% of people use shared, unimproved, or no sanitation
- Can the former (at least those paying a water bill) cross-subsidize sanitation improvements for the latter?

Examples of cross-subsidies in Kenya:

- KPLC and fuel levy

OBJECTIVES

1. Determine the willingness-to-pay of utility customers for a pro-poor sanitation surcharge
2. Investigate factors that influence their willingness-to-pay



METHODS

Two utilities were selected:

Water utility	Number of customers	% Sewered
NAWASSCO	39,528	39.7 %
RUJWASCO	16,446	0.5 %

Qualitative data collection:

- 39 interviews and 4 focus-group discussions with customers
- 26 interviews with stakeholders (utilities, government officials, landlord association, CBOs, etc.)

Quantitative data collection:

- Survey of 402 utility customers to determine willingness-to-pay
- Random sampling stratified by income level



METHODS

In the willingness-to-pay survey, we randomized implementation scenarios:

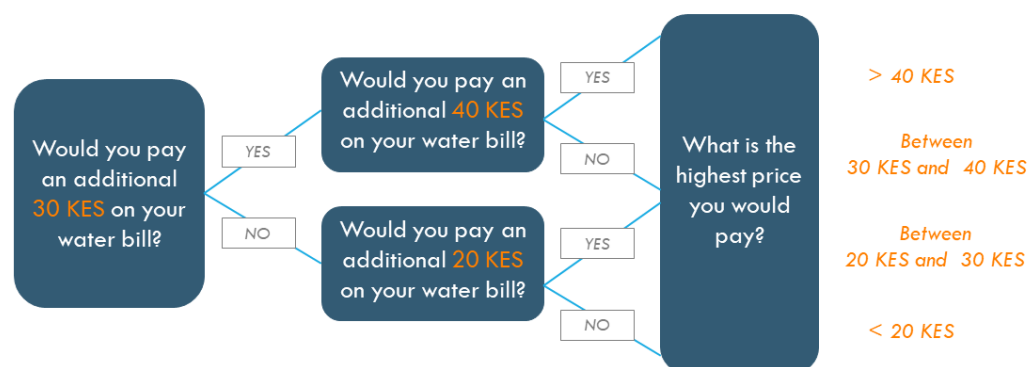
- Messaging: Community Health vs. Clean Environment
- Type of Sanitation: Sewered vs. On-site
- Type of Billing: Flat Amount vs. Proportional Rate

*"The charge would be a **flat amount of 200 KES**. Your water usage would not affect the amount of the charge. Every customer of RUJWASCO would be assessed the same flat amount on each bill.*

*Suppose RUJWASCO was to establish a **community health** pro-poor **sewerage** fund to provide low-income areas in Ruiru-Juja with improved sanitation."*

METHODS

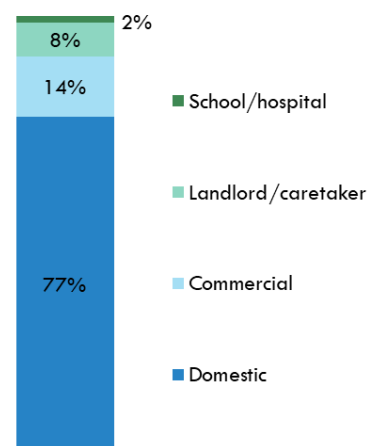
To determine willingness-to-pay, we used the *double-bound dichotomous choice* method



FINDINGS (QUANTITATIVE)

Respondents were mostly domestic customers

- On average, there were 5 users per connection



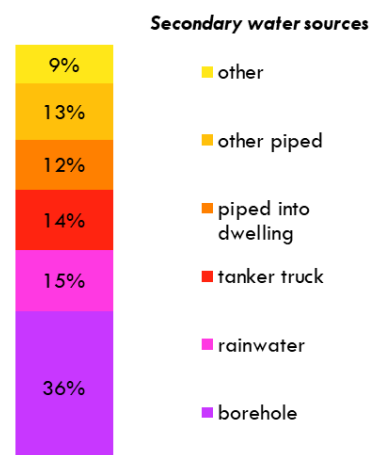


FINDINGS (QUANTITATIVE)

92% of respondents used piped water for drinking

But 54% had a secondary water source

- This was more common in Ruiru-Juja (73%) than in Nakuru (35%)



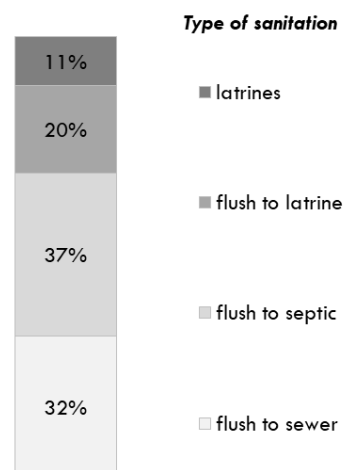
FINDINGS (QUANTITATIVE)

89% of respondents had flush toilets

- 100% in Nakuru, vs. 78% in Ruiru-Juja

32% had sewer connections

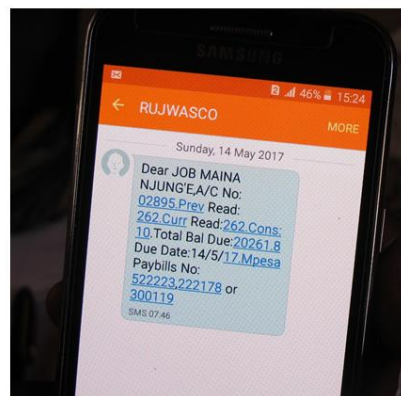
- 49% in Nakuru, vs. 15% in Ruiru-Juja



FINDINGS (QUANTITATIVE)

Previous water bill (n=347)

- Median: 1088 KES
- Inter-quartile range: 625-2337 KES
- Higher for RUJWASCO than NAWASSCO



FINDINGS (QUANTITATIVE)

18% of respondents were paying for sanitation services (besides sewerage)

- Septic tank/pit emptying by vacuum trucks, latrine cleaning, etc.
- Median: 583 KES
- Inter-quartile range: 250-2000
- Higher for RUJWASCO than NAWASSCO

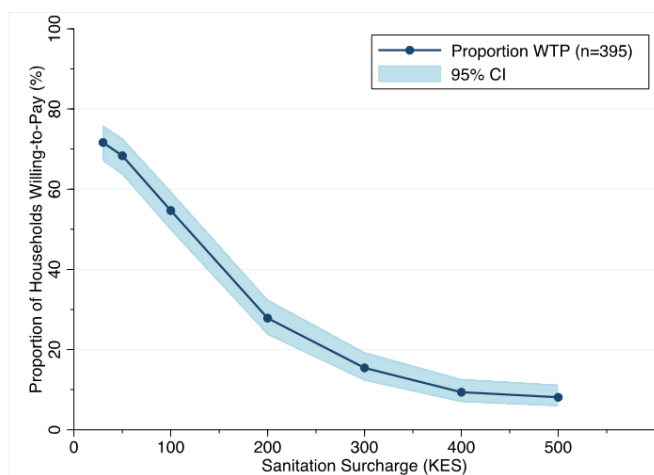


FINDINGS (QUANTITATIVE)

75% willing to pay some amount

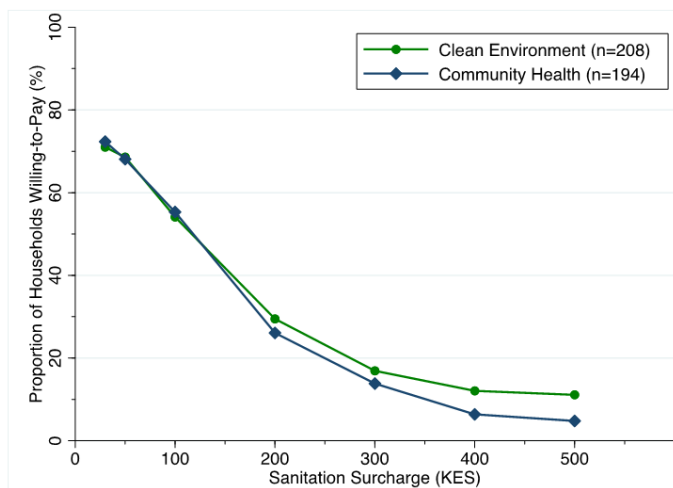
Median: 100 KES/month

- 9% of median water bill



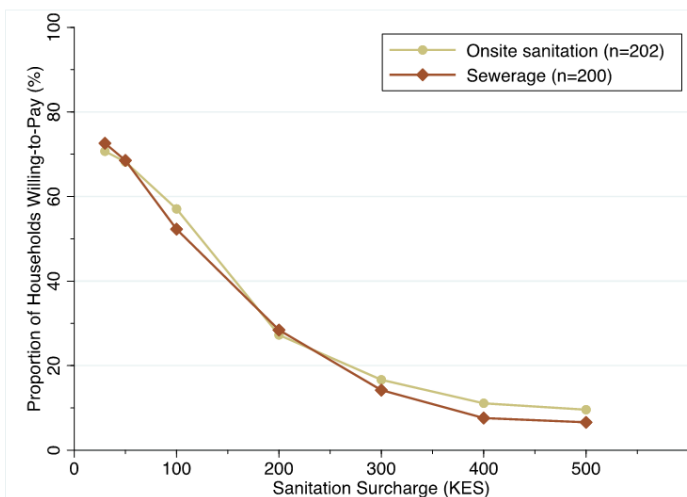
FINDINGS (QUANTITATIVE)

Willingness-to-pay was not significantly different when varying the **TYPE OF MESSAGING**



FINDINGS (QUANTITATIVE)

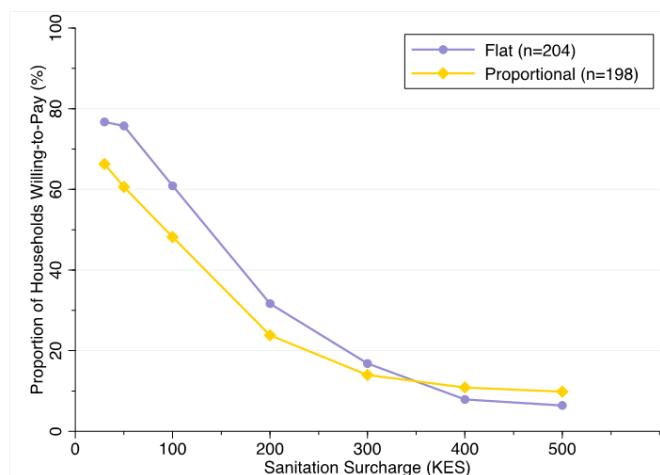
Willingness-to-pay was not significantly different when varying the **TYPE OF PROPOSED SANITION**



FINDINGS (QUANTITATIVE)

Willingness-to-pay was not significantly different when varying the **BILL TYPE**

■ (although more customers were willing to pay for a flat amount)





FINDINGS (QUANTITATIVE)

Factors that DID influence willingness-to-pay were:

- Trust in utility to manage the pro-poor fund
- Solidarity
- Satisfaction with water services



FINDINGS (QUALITATIVE)

Corruption was the most cited concern

"I think one of the most discouraging things in Kenya is corruption which permeates the whole society...it even prevents me from contributing because I think I am enriching the already rich" (Utility customer)

Customers would be willing to pay if the quality of their services improved:

- Continuous water supply
- Sewer connection

FINDINGS (UTILITY COMPARISON)

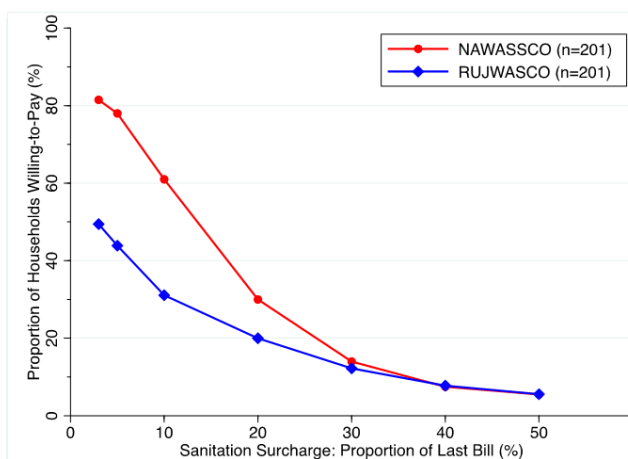
More people were willing to pay in Nakuru (85%) than Ruiru-Juja (58%)

Number of customers WTP +10% of water bill:

- Nakuru: 60%
- Ruiru-Juja: 31%

May be because:

- Higher water/sanitation expenses in Ruiru-Juja
- Higher trust in utility in Nakuru
- Customers in Nakuru are more satisfied with their water services



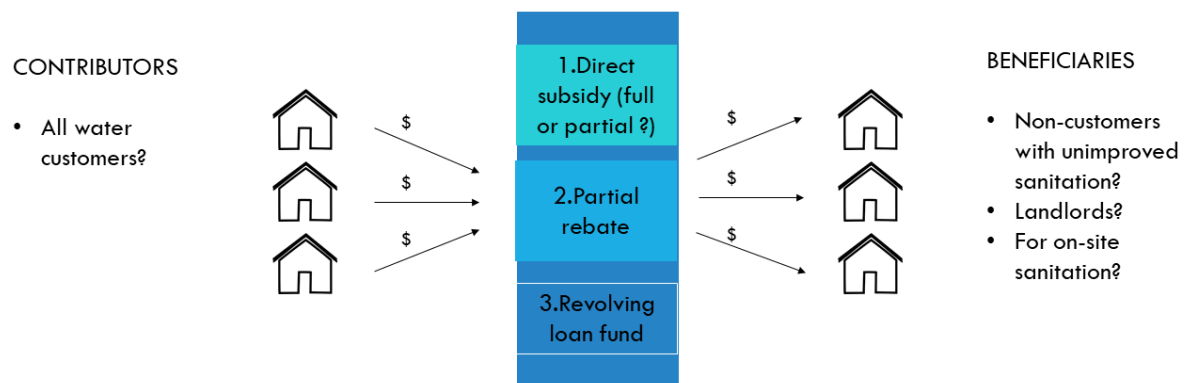
CONCLUSION

75% of customers were willing-to-pay some amount

At the median WTP of 100 KES/month, the 91 water regulated utilities in Kenya could raise a combined 1.6 billion KES annually for sanitation improvements in low-income areas

Messaging around *trust* and *solidarity* is recommended

IMPLICATIONS



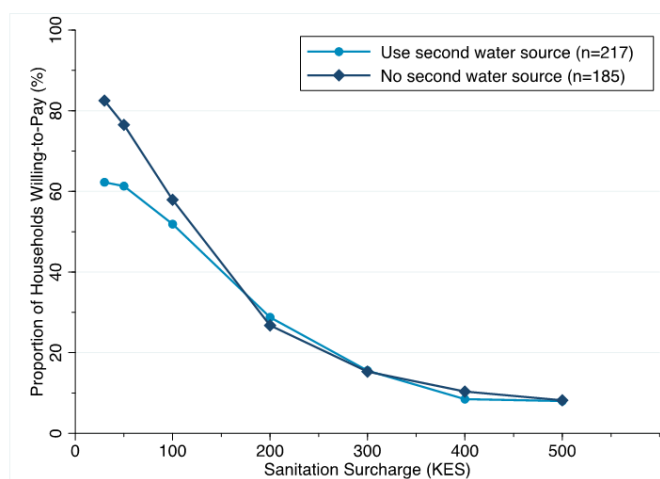
PENDING QUESTIONS

- Define **customers** and **beneficiaries**. Should the subsidy/loan be targeted?
- Who should **manage** the fund?
- What type of **sanitation facility** would the surcharge fund?
- Who would **host** the revolving fund?
- How much **external capital** is needed? Who can provide it? Would it be repaid?
- What should be the **terms** of the loan (interest, repayment period)?
- How would the **quality control** be ensured?
- Should scheduled pit **emptying services** be bundled?

ADDITIONAL SLIDES

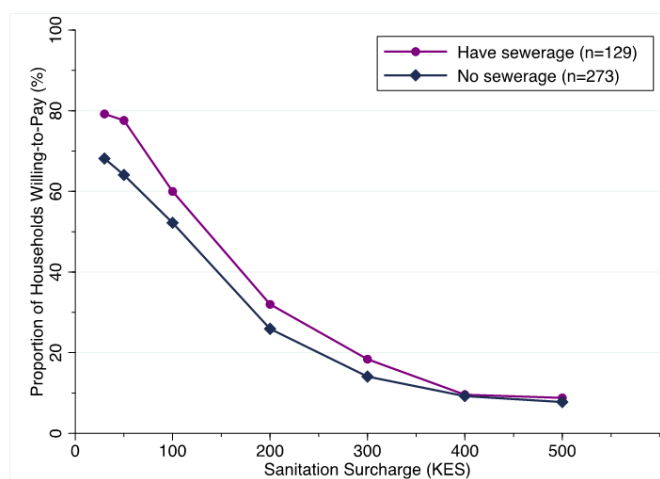
FINDINGS (QUANTITATIVE)

Willingness-to-pay was not significantly different for customers **USING A SECONDARY SOURCE**



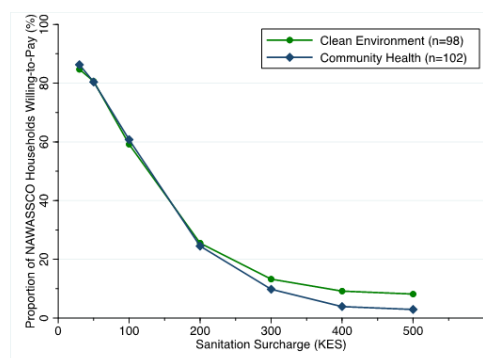
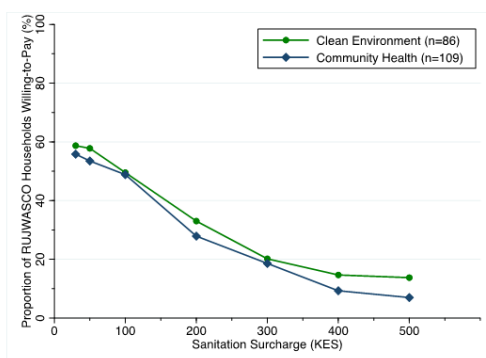
FINDINGS (QUANTITATIVE)

Willingness-to-pay was not significantly different between customers **WITH AND WITHOUT SEWERAGE**



RUJWASCO

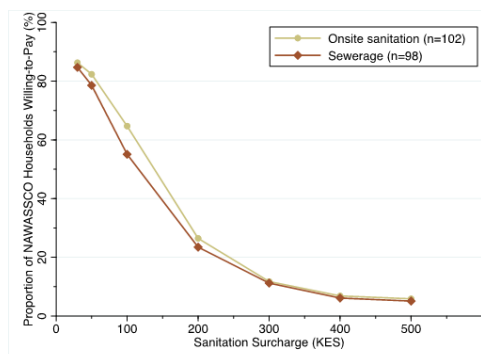
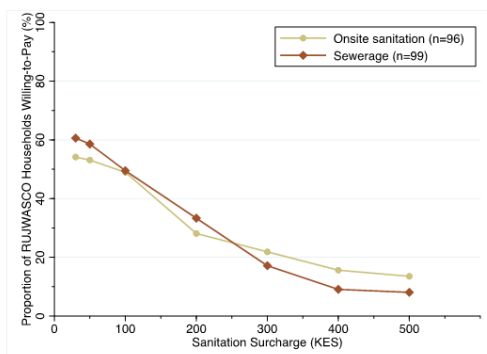
NAWASSCO



Willingness-to-pay was not significantly different when varying the **TYPE OF MESSAGING**

RUJWASCO

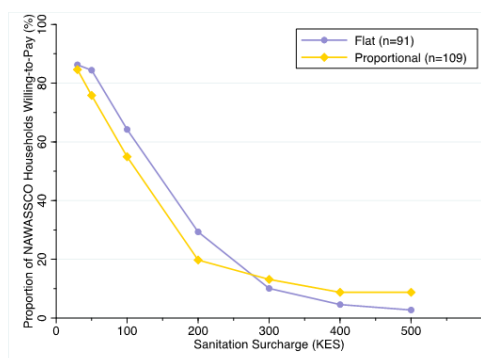
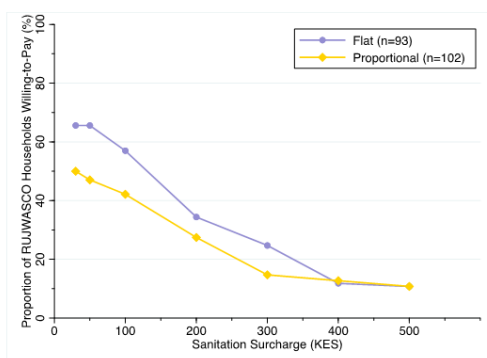
NAWASSCO



Willingness-to-pay was not significantly different when varying the **TYPE OF PROPOSED SANITATION**

RUJWASCO

NAWASSCO



Willingness-to-pay was not significantly different when varying the **BILL TYPE**