

# Attitudes and perceptions of urban households in sub-Saharan Africa on water sources, threats and sustainability: A study in Bondo, Kenya

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Bondo



## Abstract

A survey was conducted in Bondo town, Kenya, during June 2011 to examine how attitudes and perceptions of urban residents on water sources, threats and sustainability affect their participation in town-level water interventions intended to increase access to safe drinking water. During the survey, women from 307 households were interviewed in five urban and peri-urban neighborhoods within the Bondo Township. Data was analyzed using cross tabulation, chi-square and logistic regression methods. Results of the study show that the majority of urban residents consider unimproved drinking water sources such as ponds and water from vendors to be very important compared to improved sources such as public stand pipes. Households in Bondo consider droughts and more people migrating to the town to be greater threats to households' water sources compared to activities that worsen water quality. Results of this study reveal marginal participation by women in town-level water activities and interventions; only 2.3% of women of the total households interviewed belong to a water group, 4.2% had attended a water meeting during the last six months prior to survey, 13.4% had participated in water treatment training, and 9.1% had participated in hand-washing training. This does not bode well for policy because women's participation in water interventions has been shown to improve health outcomes and sustainability. Future studies will need to identify barriers to women's participation in urban water interventions, and ways to increase women's involvement with the aim of improving health outcomes, particularly in the reduction of diarrheal illness.

Keywords: Urbanization, water, sub-Saharan Africa, women, participation, sustainability

## The Problem

The majority of urban residents in sub-Saharan Africa lack access to safe drinking water. This is a problem set to worsen: the UN has identified the sub-Saharan region as top on the list of regions that will experience unprecedented urban growth in the coming decades. Rapid urban growth is already happening in most of Kenya's cities and towns. In the Lake Victoria region, in particular, an urban population explosion poses a profound challenge to the environmental sustainability of Lake Victoria, the world's largest, tropical, freshwater body. Lake Victoria provides water and fisheries resources and livelihoods to millions of people in 10 nations. Urbanization occurs in both the Lake's water catchment basin and along its shores. Because of poverty and inequality, this urban growth largely takes the form of slum proliferation and other kinds of informal settlements. In informal urban settlements, residents have little or no access to safe drinking water or adequate sanitation services, increasing the danger of water- and sanitation-related diseases.

## Objectives

1. To understand what urban residents perceive as problems with interventions being implemented to increase access to clean water in Bondo township.
2. To describe what urban residents perceive as threats to households sources of drinking water
3. To understand how women are involved in activities / interventions aimed at increasing access to safe water

## Methods

The field data collection involved three main phases and included both formal and informal survey methods. The first stage involved discussions with key informants on households' sources of drinking water in Bondo township location. The second stage consisted of a formal household survey using pre-designed questionnaires. The survey was held to collect specific qualitative and quantitative information from households. The third stages involved transect walks in the urban, peri-urban neighborhoods township to verify the information collected during the formal and informal surveys. Secondary data from technical reports and statistical abstracts were also used as additional sources of information.

### Informed consent

The survey protocol was approved by the Institutional Review Board (IRB) of Arizona State University. Oral informed consent was obtained from all participants and personal identifiers were permanently removed from the database

Table 1: The burden of water collection in the households

Who collects water?	Residence			Average
	Rural type neighborhoods	Peri-urban	Urban	
Women (%)	36.4	86.7	66	63
Women or children (%)	33.1	6	13.2	17.4
Women or husband (%)	1.7	0	1.9	1.2
Women or vendors (%)	1.7	1.2	8.5	3.8
Husband (%)	4.2	3.6	0.9	2.9
Children / grandchildren (%)	11.9	2.4	4.7	6.3
Vendors (%)	5.1	0	1.9	2.3
Other (%)	5.8	0	2.8	2.9

Source: Author's field data (N = 307)

Table 2: Time takes to water source, and methods of storing water in the households

	Less than 30 mins or water at household's premises	Residence			Average
		Rural type neighborhoods	Peri-Urban	Urban	
Time takes to walk to water and back (%)	About 30 minutes	28.2	73.5	65.1	55.6
	Between 30 mins to 1 hr	11.1	3.6	13.2	9.3
	An hour or more	54.7	13.3	12.3	26.8
	Water pot	72	61.4	58.5	63.9
	Bucket	5.9	8.4	3.8	6.0
Method water storage (%)	Plastic tank - Skyplast	10.2	8.4	12.3	10.3
	Plastic jerrycan	11.9	20.5	23.5	18.6
	Bottle	0	1.2	1.9	1.0

Source: Author's field data (N = 307)

## Key Findings

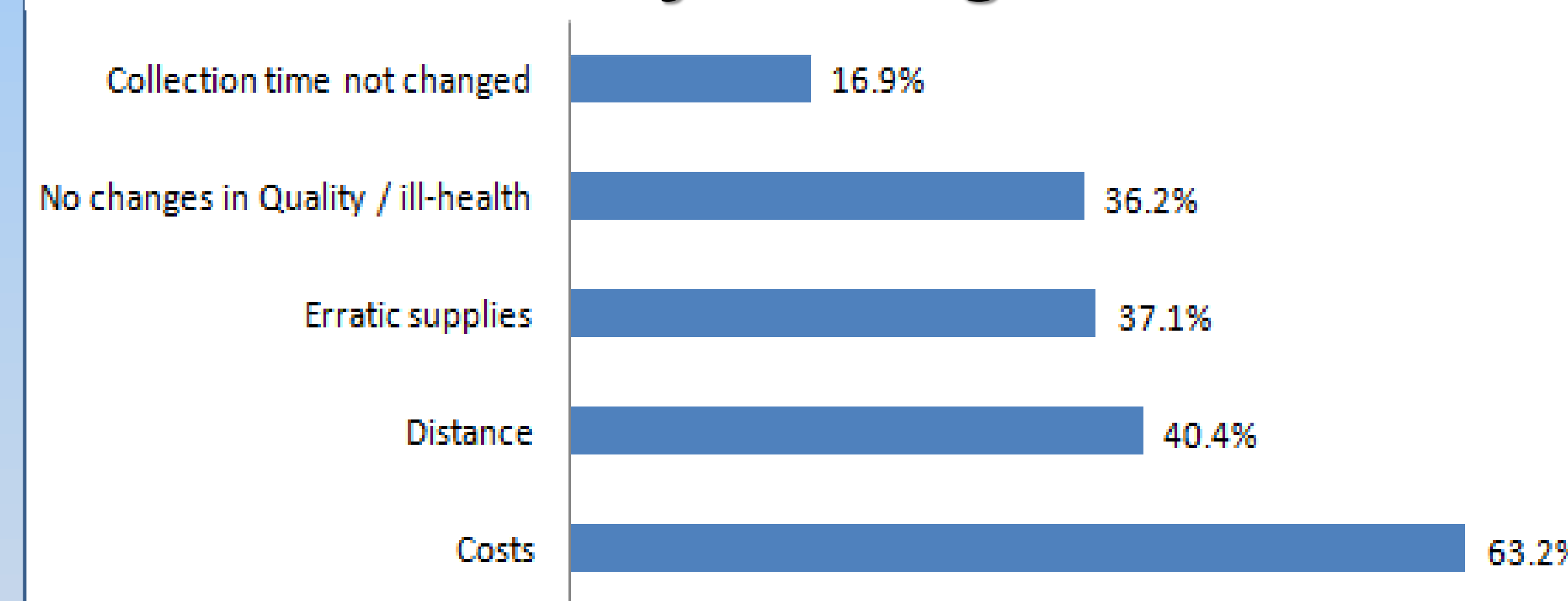


Figure 1: Households' Perceptions of problems with interventions being implemented to increase access to safe drinking water

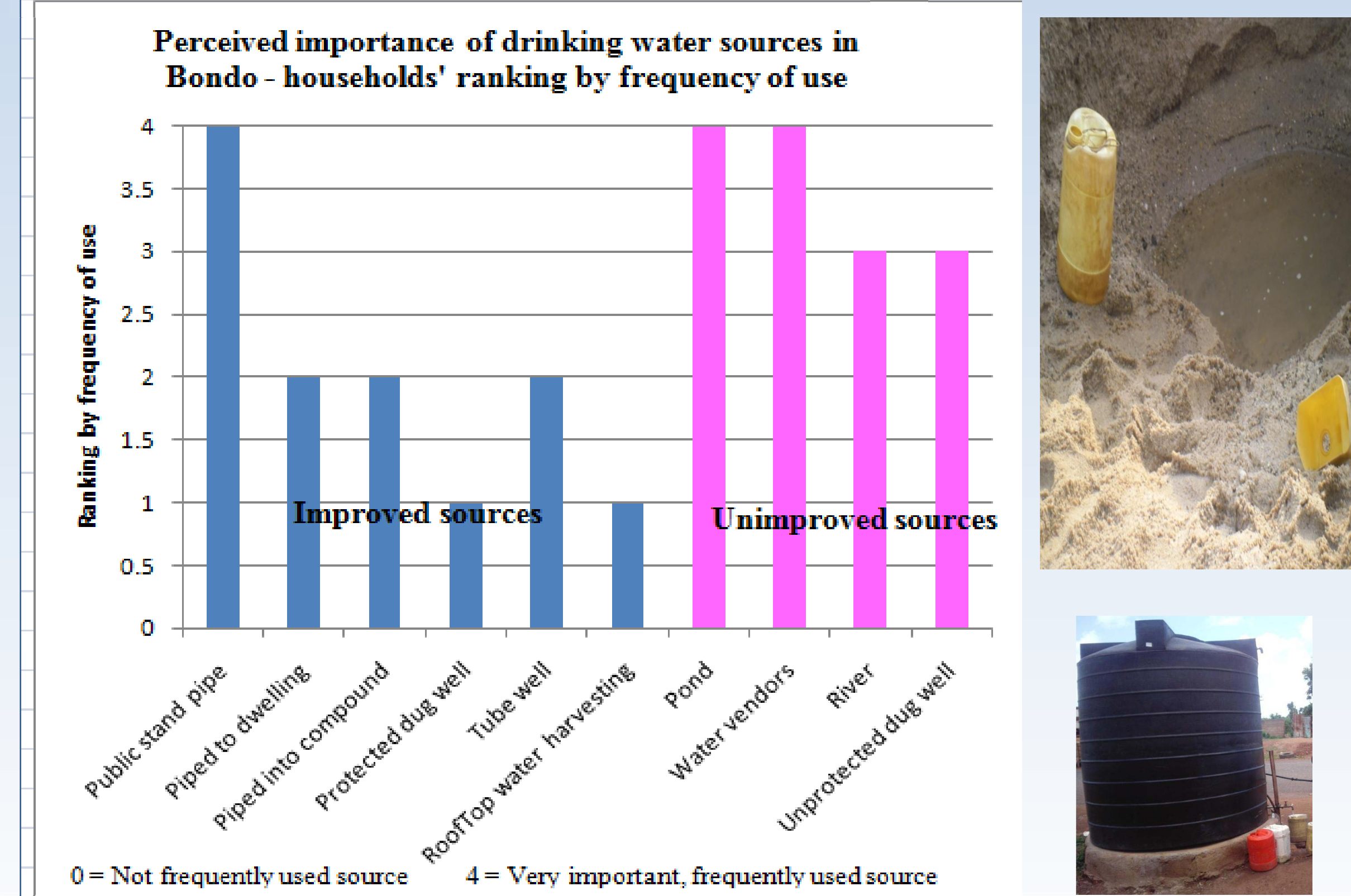


Figure 2: Households' drinking water sources – ranking by frequency of use

Perceptions of threat to household water sources

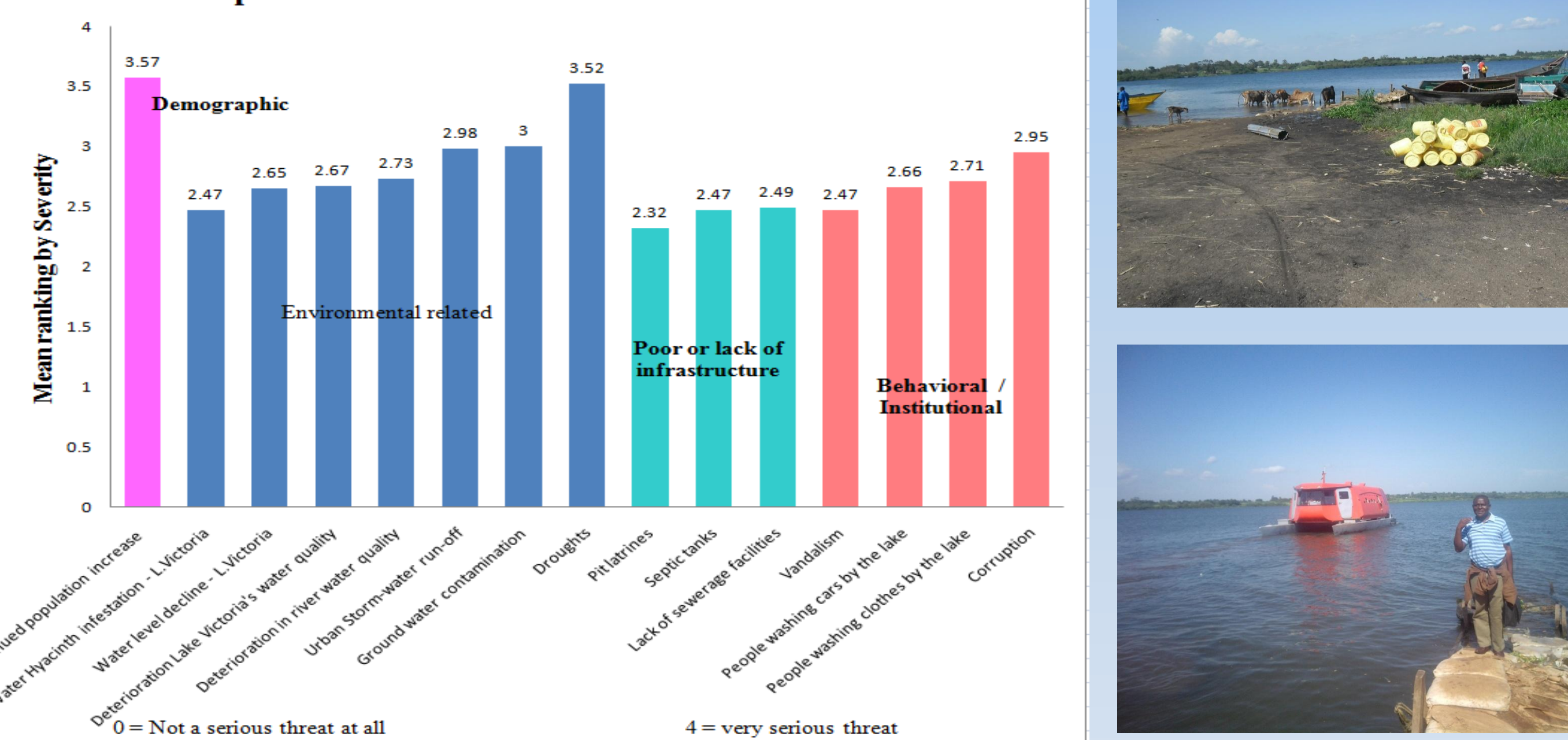


Figure 3: Households' perceptions of threats to sources of water – ranking by severity

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Table 3: Women's participation in water activities and intervention related activities in Bondo Township Kenya

Variable	Description	Belongs an Informal Water Group n = 7	Have attended water meeting in the last 6 months n = 13	Have participated in household water treatment training n = 41	Have participated in hand washing training n = 28
Age (%)	20yrs and below	0	0%	2.4	3.6
	20-29 yrs	14.3	23.1	26.8	17.9
	30-39 yrs	0	15.4	22.8	25.0
	40-49 yrs	28.6	30.8	22.0	17.9
	Above 50 yrs	57.1	30.8	34.1	35.7
Education level (%)	None	14.3	23.1	14.6	21.4
	Primary	57.1	23.1	46.3	39.3
	Secondary	14.3	23.1	29.3	28.6
	College	14.3	30.8	9.8	10.7
Sources of income (%)	Relies of husband or children	14.3	23.1	9.8	10.7
	Agriculture oriented / farming	57.1	23.1	36.6	32.1
Housing arrangement (%)	Small business oriented	14.3	15.3	39	39.3
	Formal employment	14.3	38.5	14.6	17.9
	Rent	0	38.5	36.6	35.7
Residence (%)	Own housing	100	61.5	63.5	64.3
	Rural type neighborhoods	85.7	38.5	46.3	46.4
Belongs to self-help group (%)	Peri-urban	14.3	15.4	24.4	17.9
	Urban	0	46.4	29.3	35.7
Belongs to self-help group (%)	Yes	85.7	33.8	65.9	60.7
	No	14.3	46.2	34.1	39.3

Source: Author's field data (N = 307)

## Conclusion

Problems pointed by urban residents such as unreliability piped water supply impact negatively on the management and sustainability of service provision. When urban residents perceive improved sources to be less reliable or expensive, they are less likely to cooperate with institutions in ways that improve outcomes in service provision. The low participation by women in efforts intended to increase access to safe water and improve health outcomes impacts negatively on the goals agencies intervening in Bondo township seek to achieve, particularly reduction of diarrheal illness. The finding that households do not perceive activities that lower the quality of water sources as severe problems needs to be addressed through educational outreach and awareness creation programs. Without programs to educate residents about the activities that pollute water source, households are less likely to actively engage in town-level efforts by agencies to improve environmental hygiene and sanitation.

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