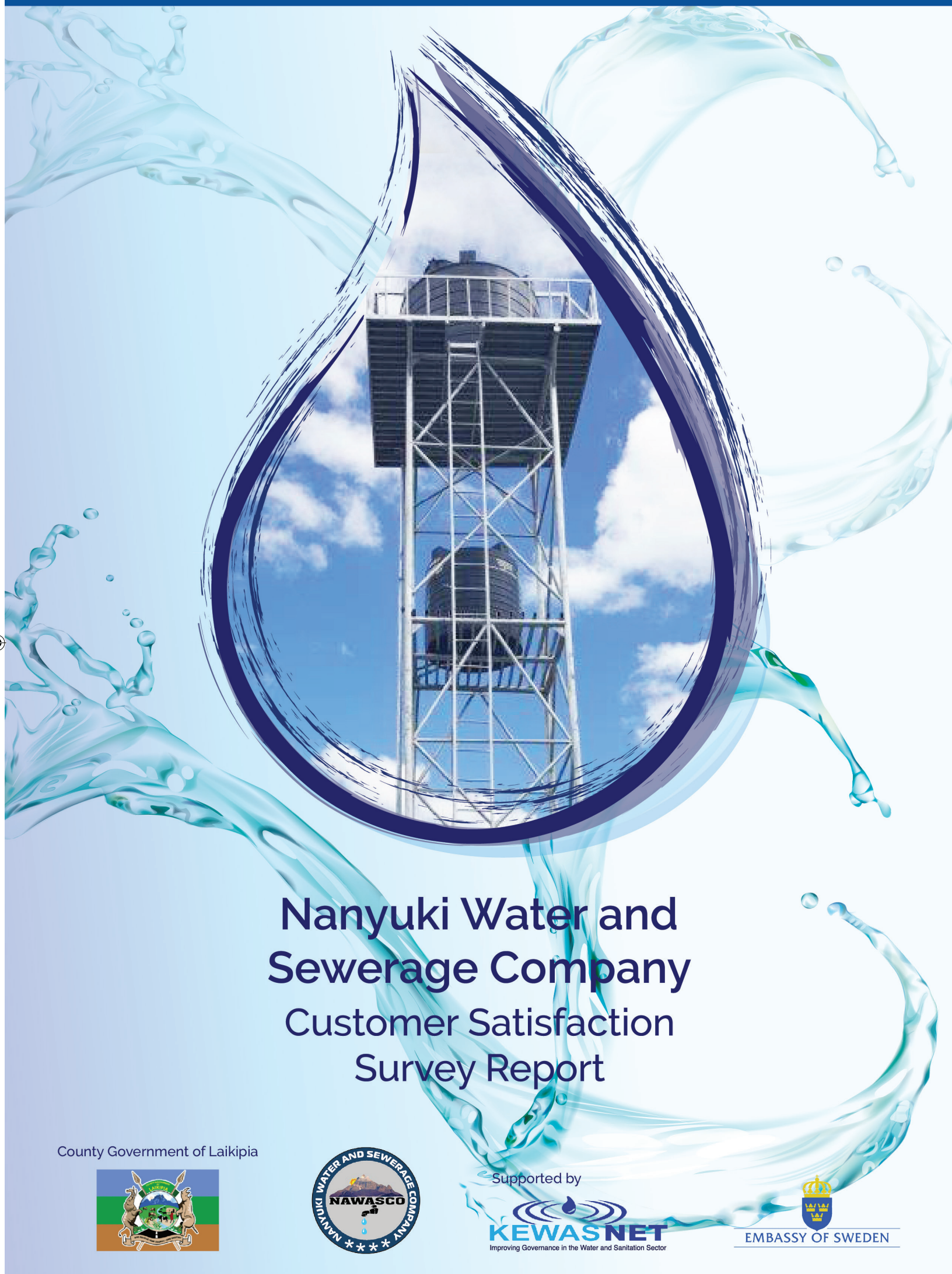




Nanyuki Water and Sewerage Company Customer Satisfaction Survey Report

County Government of Laikipia



Supported by



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LIST OF ACRONYMS

BoQ	Bill of Quantities
CAPI	Computer Aided Personal Interviewing
CBD	Central Business District
CSO	Civil Society Organizations
FGD	Focus Group Discussion
GIS	Geographic Information System
JICA	Japan International Cooperation Agency
KES	Kenya Shillings
KEWASNET	Kenya Water and Sanitation Civil Society Network
KII	Key Informant Interview
KPI	Key Performance Indicator
NAWASCO	Nanyuki Water and Sewerage Company
NRW	Non-Revenue Water
NWSB	Northern Water Services Board
ODK	Open Data Kit
SIDA	Swedish International Development Cooperation Agency
SPA	Service Provision Area
WAG	Water Action Group
WASH	Water, Sanitation and Hygiene
WASPA	Water Services Providers Association
WASREB	Water Sector Regulatory Authority
WHO	World Health Organization
WRM	Water Resource Management
WSP	Water Service Provider

EXECUTIVE SUMMARY

The Consumer Engagement Guidelines by the WASREB define the need and place for customer satisfaction surveys in a Water Service Provider's (WSP) operations. The surveys should be carried out every two years and are meant to capture "consumer attitudes, priorities and perceptions on the quality and adequacy of services" provided by the utility in addition to capturing their concerns. The surveys therefore present an avenue for strengthening consumer consultation and participation, and appropriate actions should be taken to address issues raised in the surveys.

With the assistance of the Swedish International Development Cooperation Agency (SIDA), the Kenya Water and Sanitation Civil Society Network (KEWASNET) is implementing a WASH governance support programme that seeks to improve access to basic Water, Sanitation and Hygiene (WASH) and Water Resource Management (WRM) services. As part of the programme, KEWASNET seeks to support a customer satisfaction survey to find out the perceptions of current Nanyuki Water and Sewerage Company (NAWASCO) customers in a bid to understand the strengths and gaps of the current service levels. The results of this satisfaction survey will feed into the design of a customer service charter that will clearly outline service level commitments by the utility to its customers: the standard of service that the customers should expect from the utility and the processes through which consumers can communicate with and receive feedback from the utility. This report presents the outcomes of the survey and recommendations for measures to put in place to realize the proposed Charter.

Methodology

A three-step evaluation process involving desk review, fieldwork and synthesis was employed to develop the customer satisfaction report. Among documents reviewed were the Water Act 2016, the National Water Services Strategy (2007-2015), WASREB consumer engagement guidelines and the model water services regulations, NAWASCO's draft 2019-2022 strategic plan, the current NAWASCO service charter, and the Laikipia County draft 2018-2022 county integrated

development plan. For comprehensive primary data collection, the following was carried out: Interviews engaging 18 key informants (KIIs), 3 Focused Group Discussions (FGDs) guided by semi-structured questionnaires, and consumer surveys administered to a statistically relevant sample of 379 NAWASCO customers. The consumer surveys were administered using Computer Aided Personal Interviewing (CAPI) on the Open Data Kit (ODK) platform.

The expectancy-disconfirmation model of explaining customer satisfaction was applied in this study. The model compares prior expectations regarding water service delivery to current perceptions of actual service delivery. That is, whether expectations were met or not. Satisfaction levels were captured on a five-point Likert scale. This scale represents survey questions that offer a range of answer options from one extreme attitude to another. The multiple-choice options offered under the survey were: very unsatisfied, unsatisfied, indifferent, satisfied and very satisfied. The five options were weighted from 0 to 4 with higher numbers assigned to the most positive options. Visualization and interpretation of results applied the RAG ("Red / Amber / Green") criteria following a similar scale to that used in WASREB impact reports: 'red' (highly unsatisfactory for scores <50%), 'Red Amber' (unsatisfactory for scores of 51%-65%), 'Amber green' (satisfactory for scores of 66% - 80%) and 'green' (highly satisfactory for >80%). The outcomes of the survey are summarized below.

Water Supply

NAWASCO's water supply is seen as a key source of water within its mandated area with 94% of consumers considering it their main source of water, while 70.7% of consumer rely solely on the utility's water supply. The remaining 29.3% of respondents stack their water sources with the most commonly observed options being rain water harvesting, bottled water and community water projects in that order. Further, this survey finds that a majority of NAWASCO customers (78%) receive 24/7 water service delivery from NAWASCO. Disaggregating this into days and hours of supply, 84% of the respondents

EXECUTIVE SUMMARY

indicated receiving water daily while 4% and 3% receive water either 6 or 5 days of the week respectively. Additionally, 94% of customers receive water for 24 hours on the days when water is supplied. WASREB considers hours of supply a key performance indicator (KPI) in the evaluation of water utilities where, for utilities with target populations above 100,000, the water sector benchmark for good performance on hours of supply is 21-24 hours. NAWASCO is therefore seen to be performing relatively well against this KPI with room for improvement. The improvement of service is especially relevant to consumers within the peripheries of the utility's supply network who are a lot more likely to experience intermittent supply than those within the town area. Overall, consumers were generally satisfied with the water supply indicators evaluated: amount of water received at 71%, regularity of supply at 71% and pressure of water supplied at 70%.

Water Quality

Drinking water quality as measured by the sector regulator WASREB under the drinking water quality KPI is a weighted composite indicator measuring compliance with residual chlorine standards and bacteriological standards. Additionally, the World Health Organization (WHO) and the Kenya national guidelines for drinking water quality recognize that drinking water should be of acceptable taste, colour and odour to the consumers. This survey did not involve measurement of the WASREB related parameters and therefore an evaluation against this WASREB KPIs could not be carried out. However, consumer perceptions on the taste, colour and smell were evaluated. The perception indicators had the highest satisfaction ratings at 81%, 79% and 77% for smell/odour, taste and colour respectively. Additionally, 94% of respondents consider NAWASCO their main source of drinking water, which is indicative of a perception of safety of water by consumers.

Metering, billing and payments

Various parameters were evaluated under this category including awareness of the tariff structure, timeliness and modes of billing and awareness and preference of bill payment options. There is a need to raise awareness of the various items factored into a water bill and to educate consumers on bill calculations. This is deduced from the observation that only 59% of respondents with both a water and a sewerage connection indicated meter rent being part

of their bill, while 79% knew that a separate sewerage cost is factored into the water bill. Additionally, there were concerns of flat rate charges regardless of water consumption volumes pointing to a limited understanding of NAWASCO's graduated tariff. A low hanging fruit to remedy this is to review the structure of the SMS bill so that it provides the breakdown of costs. Consumers were, however, generally satisfied with the timeliness and modes of billing: 90% indicated receiving their bills on time; 87% of respondents receive their bills via SMS with 93% identifying SMS billing as their preferred mode of billing. M-pesa was seen as the most commonly known and preferred mode of payment for water bills, while a notable percentage (16%) prefer to pay their bill via the bank options available. Under the satisfaction analysis, consumers were seen to be generally satisfied with the timeliness of billing (70% score) and the availability of payment channels (75%). However, there was dissatisfaction with the price of water (62%) indicating a need to sensitize people on the need to pay for water and how the bills are calculated.

Connections, disconnections and reconnections

Customers are generally satisfied with the procedures involved, the length of time it took, and the costs involved in getting a new connection with satisfaction rates of 74.2%, 72.1% and 68.5% respectively. In most cases, a new connection is effected within 2 weeks of making required payments, depending with the nature of the distribution network in the target area for the new connection.

Disconnections are a continuous process at NAWASCO and are effected to persons with arrears from the previous billing month. Information from the KIIs and the survey point to a need to streamline the customer facing processes in disconnection. For instance, the utility does not send out warning messages for disconnections unless in cases of mass disconnections. Additionally, the water bill does not include a due date for payment. Consequently, the satisfaction indicator for 'Notice period for disconnections' received the lowest satisfaction rating of the study at 51%. Concerted efforts are therefore needed to remedy this, with one of the immediate actions being revision of the SMS bill text to include a payment due date.

Like disconnection, reconnection to water supply is a continuous process and is done within one working day of making required payments and requesting for reconnection. Consumers are, overall, satisfied with the time it takes to get reconnected with an average rating of 69%.

Sewerage Services

27% of this survey's respondents indicated being connected to the utility's sewerage network while 22% were unsure if they were connected or not and 51% were not connected. A sense of dissatisfaction with the process of getting a new sewerage connection was observed among respondents who had applied for one. The overall satisfaction rates with the procedure, length and cost of getting a sewerage connection were 64%, 65% and 65% respectively. The overall experience with sewerage services was, however, seen to be satisfactory with an average rating of 71%.

Communication and complaints handling

WASREB's Consumer Engagement Guidelines stipulate that WSPs are responsible for regularly communicating and engaging with consumers in their service areas on matters regarding the provision of water and sanitation services. These guidelines also emphasize the need for water utilities to put in place effective and efficient communication channels that allow customers to engage freely with the utility. Per the customer satisfaction survey, 93% of the respondents indicated having not received any other form of communication from NAWASCO except for billing messages.

This highlights the need for very deliberate efforts by NAWASCO to engage customers.

On complaints, 70% of respondents indicated having lodged a complaint with the utility with the most issues raised being inaccurate bills, unreliable water supply, and leakages and bursts. The rate of complaint resolution was, however, seen as being significantly inadequate with only 38% of those who'd made a complaint indicating that it was resolved. Consequently, NAWASCO's response time to customer complaints' had one of the lowest satisfaction rates at 63%. Other indicators evaluated under this category were courteousness of staff at a satisfactory rate of 70%, availability and affordability of communication channels both with a satisfactory rate of 68%, and the time taken to restore water in case of interruptions with an unsatisfactory rate of 64%.

Overall satisfaction

Respondents were asked to rate their overall satisfaction with the services provided by NAWASCO, factoring in the various indicators evaluated under this survey. The overall satisfaction rate was 71%. A direct correlation was observed between the overall satisfaction rate and the reliability of water supply. Households receiving intermittent supply of water were, to a great extent, the same ones that reported being either unsatisfied or very unsatisfied with NAWASCO's overall service levels. It may therefore be concluded that continuity and/or predictability of water supply among NAWASCO's consumers should be prioritized in addressing

Table 1: Summary of satisfaction indicators

#	Indicator	Satisfaction Rating
	OVERALL SATISFACTION RATE	71%
A	Water quality	
1	Taste	79%
2	Smell	81%
3	Colour	77%
B	Reliability and Availability of water supply	
4	Amount of Water received	71%
5	Regularity of water supply	71%
6	Pressure of water supplied	70%
C	Metering and Billing	
7	Price of water	62%
8	Timeliness of billing	70%
9	Availability of payment channels	75%

#	Indicator	Satisfaction Rating
D	Connection, Disconnection and Reconnections	
10	Procedure of getting new water connection	74%
11	Length/duration of getting new water connection	73%
12	Cost of getting new water connection	68 %
13	Notice period for disconnections	51%
14	Time it takes for reconnection	69%
E	Sewerage Services	
15	Overall satisfaction with sewerage services	71%
16	Procedure of getting new sewerage connection	64%
17	Length/duration of getting new sewerage connection	65%
18	Cost of getting new sewerage connection	65%
F	Communication and complaint handling	
19	Courteousness of NAWASCO staff	70%
20	Availability of communication channels	68%
21	Affordability of communication channels	68%
22	Time taken to restore water in case of interruptions	64%
23	NAWASCO response time to customer complaints	63%

customer satisfaction concerns. Table 1 below provides a snapshot of the satisfactory ratings for the the various indicators evaluated under this study.

Recommendations

With the enactment of Water Act 2016, Water service providers are required to apply for operating licences from the sector regulator WASREB. It is recommended that NAWASCO pursues this licence as it is the document under which its activities and service provision levels (including the customer service charter) are anchored. Civil Society Organizations could be instrumental in this process, which involves development of various key documents such as business plans and revised tariffs for the application process.

To address satisfaction concerns among its consumers and help realize its Service Charter commitments, the following key recommendations are highlighted:

1. NAWASCO should develop, communicate and adhere to a water distribution schedule for areas receiving intermittent supply of water. Additionally, the utility must endeavour

to communicate any planned water interruptions at least 48 hours in advance. This is key to addressing the overall satisfaction of consumers with the utility's services.

2. NAWASCO should update and communicate the utility's tariff structure. This should include set penalties and fines for actions that contribute to increased levels of non-revenue water.
3. There is need to restructure the SMS bill so that it includes the costing breakdown as well as the bill payment due date. This will help address the limited awareness of the tariff structure observed among customers while providing warnings for disconnection in case of non-payment.
4. NAWASCO should leverage on existing platforms to improve two-way communication with its consumers. These include the utility's Facebook page, SMS platforms and the complaint management platform Maji Voice.

1. INTRODUCTION

1.1 Assignment overview

1.1.1 Background

With the assistance of the Swedish International Development Cooperation Agency (SIDA), the Kenya Water and Sanitation Civil Society Network (KEWASNET) is implementing a WASH governance support programme that seeks to improve access to basic Water, Sanitation and Hygiene (WASH) and Water Resource Management (WRM) services. As part of the programme, KEWASNET seeks to support Nanyuki Water and Sewerage Company (NAWASCO) develop a customer service charter that will clearly outline the services that the utility provides to its customers, the standard of service that the customers should expect from the utility and the processes through which consumers can communicate with and receive feedback from the utility. To inform this charter, KEWASNET is also supporting a customer satisfaction survey to find out the perceptions of current NAWASCO customers in a bid to understand the strengths and gaps of the current service levels. The results of this satisfaction survey will feed into the design of the charter. As such, the main objectives of this customer satisfaction survey report are to i) establish the extent of customer satisfaction across NAWASCO, ii) serve as an advisory tool for the development of the service charter, and iii) provide recommendations on actions to be taken to ensure commitment to the Service Charter.

1.1.2 The need for customer satisfaction surveys

Various guidance documents within the Kenyan water sector highlight the need for consumer engagement. Among these include the 2016 Water Act which mentions customer care under article 96 stipulating that *“Every water services provider shall establish a mechanism for handling consumer complaints which meets the standards set by the Regulatory Board”*. The national water services strategy also emphasizes the role of utilities in customer sensitization and maintenance of good customer relations noting that WSPs are required to engage consumers. The Consumer Engagement Guidelines by the

WASREB provides more guidance to consumer engagement and recognizes implementation of customer satisfaction surveys as one tool to this end.

The Guidelines define the need and place for customer satisfaction surveys in a Water Service Provider’s (WSP) operations. The surveys should be carried out every two years and are meant to capture “consumer attitudes, priorities and perceptions on the quality and adequacy of services” provided by the utility in addition to capturing their concerns. The surveys therefore present an avenue for strengthening consumer consultation and participation, and appropriate actions should be taken to address issues raised in the surveys. Further, under the guidelines, WSPs are expected to regularly inform and interact with consumers in their service area on service quality and access, with support from the Water Action Group (WAGs) where applicable, and swiftly resolve consumer complaints. The customer satisfaction surveys present an avenue to evaluate the consumers ease of access to information on, and knowledge of various service level indicators such as water quality, continuity of water supply, complaint handling mechanisms, and water tariffs among others. Customer satisfaction surveys therefore measure customer perceptions on utility service delivery performance. They serve the important function of enabling water service providers to understand the attitudes and preferences of different types of consumers, determine focus areas for improvement and track performance progress over time.

Water utilities in Kenya are beginning to realize the value that customer engagement can have on improving operations. Initiatives such as the Maji voice platform launched by the WASREB as well as the Customer Service levels platform in the quarterly benchmarking for utilities organized by the Water Services Providers Association (WASPA) have been rolled out. There is, however, still a lag in the uptake of customer

engagement initiatives as utilities continue to have more efforts on network maintenance and expansion.

1.2 An overview of NAWASCO

Nanyuki Water and Sewerage Company (NAWASCO) was incorporated in December 2005 as one of the eight water utilities under Northern Water Services Board (NWSB). Following devolution under the Kenya Constitution 2010, and with the enactment of the Water Act 2016, NAWASCO is now owned by Laikipia County and is governed through a board of directors – the board includes county representation. Day-to-day operations are under a managing director who reports to the board.

NAWASCO is mandated to provide water and sewerage services within Nanyuki municipality and its environs, with a service area spanning 283Km². Nanyuki town serves as the headquarters for Laikipia County and is also recognized for its tourist attraction sites including Ol Pejeta conservancy, Mt. Kenya national Park, Ngare Ndare Forest Reserve, Nanyuki & Liki Rivers, the Equator and Maumau caves among others. Its administrative and tourism functions are among factors that have contributed to a high population density in the town. For ease of management and coverage of its services, NAWASCO has partitioned its service area into three major blocks (Nturukuma, Sweet waters and Central Business District (CBD)) which are divided into a further 19 sub-blocks for the purpose of service provision (e.g. meter reading, billing, disconnections and reconnections).

The utility is classified as a large water service provider by WASREB and is currently serving 18,583 active connections and 15 water kiosks. The daily water demand is estimated

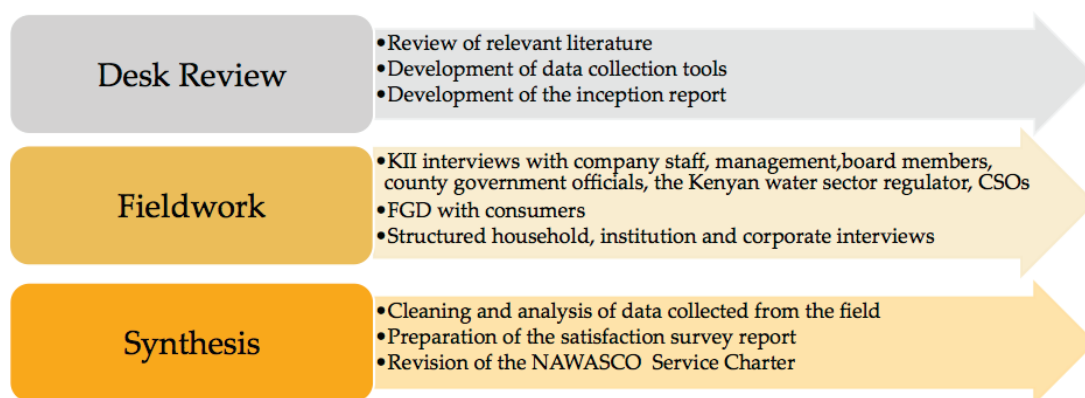
at 13,805m³/day. NAWASCO has four (4) main sources of water: River Likii from the Mt. Kenya Forest, Njoguini borehole, Katheri borehole and Nanyuki High. The quality of water from these sources is relatively good and requires minimal treatment. NAWASCO's water treatment plant has a capacity of 14,650m³/day and operates at about 82% of its capacity where approximately 12,000m³ is released daily and transmitted around the service area through gravity. There is also a notable number of customers upstream of the treatment works who receive water through pumping. The utility's network has a storage capacity of 8,200m³, about 60% of the daily water demand.

The company regularly performs well on several key performance indicators set out by the sector regulator and was ranked 6th in the recently released performance review of urban water utilities across Kenya (10th WASREB Impact Report). NAWASCO also has a service charter that provides an overview of its service standards commitments and informs customers on their responsibility to the company. The outcomes of this satisfaction survey have been used to review and update the service charter.

1.3 Methodology

A three-step evaluation process involving desk review, fieldwork and synthesis was employed to develop the customer satisfaction report. Figure 1 represents a summary of the approach.

Figure 1: Proposed Approach



¹ WASREB Impact Report 10

1.3.1 Desk Review

The main objective of the desk review stage was to understand customer care procedures and regulations governing consumer engagement in the Kenyan water sector. This entailed a comprehensive literature review of different documents including the Water Act 2016, the National Water Services Strategy (2007-2015), WASREB consumer engagement guidelines and the model water services regulations. Other documents reviewed included NAWASCO's draft 2019-2022 strategic plan, the current NAWASCO service charter, and the Laikipia County draft 2018-2022 county integrated development plan among others. This step also informed the formulation of the sampling framework and the data collection tools which included consumer survey questionnaires, key informant interviews (KII) and focus group discussions (FGD) guides.

1.3.2 Fieldwork

Primary data was collected to feed into development of the customer satisfaction survey report and the service charter. The key target groups for data collection were households, schools, commercial entities, NAWASCO management and staff, county government officials, and the Kenyan Water sector regulator. For comprehensive data collection the following was carried out: (i) Key Informant Interviews (KIIs) and Focused Group Discussions (FGDs) guided by semi-structured questionnaires and (ii) consumer surveys using structured questionnaires.

Key Informant Interviews

Semi-structured interview guides were used to capture information on service delivery levels at NAWASCO, the governance structure of the utility and the organization of their core services. A total of 18 key informants were drawn from NAWASCO staff and management as well as 2 members of the utility board, the county water chief officer, and a WASREB official. The names and details of the informants are provided in Annex 1.

Focused Group Discussions

Three focused group discussions with a total of 30 participants were held. The participants were drawn from the 19 blocks

served by NAWASCO and included both domestic and commercial consumers. The FGDs' main purpose was to triangulate information obtained from the consumer surveys.

Household, Institution and Corporate Surveys

Structured questionnaires were administered to target respondents by enumerators. The sample was drawn from a list of NAWASCO's direct (Household / yard connections) consumers. The list, shared by the utility, contained 11,637 households, 32 institutions (public and private schools) and 569 commercial entities (including health centers and churches), and their respective geolocations. The survey targeted a sample of 380 respondents calculated based on the equation² below.

$$\frac{X=(Z^2 P(1-P))}{d^2}$$

Where:

- *X* is the estimated sample size.
- *Z*: statistic for a level of confidence. (For the level of confidence of 95%, which is conventional, Z value is 1.96).
- *P*: expected prevalence or proportion. (*P* is considered 0.5)
- *d*: precision. (*d* is considered 0.05 to produce good precision and smaller error of estimate)

And:

$$\frac{n=(N \times X)}{(X+N-1)}$$

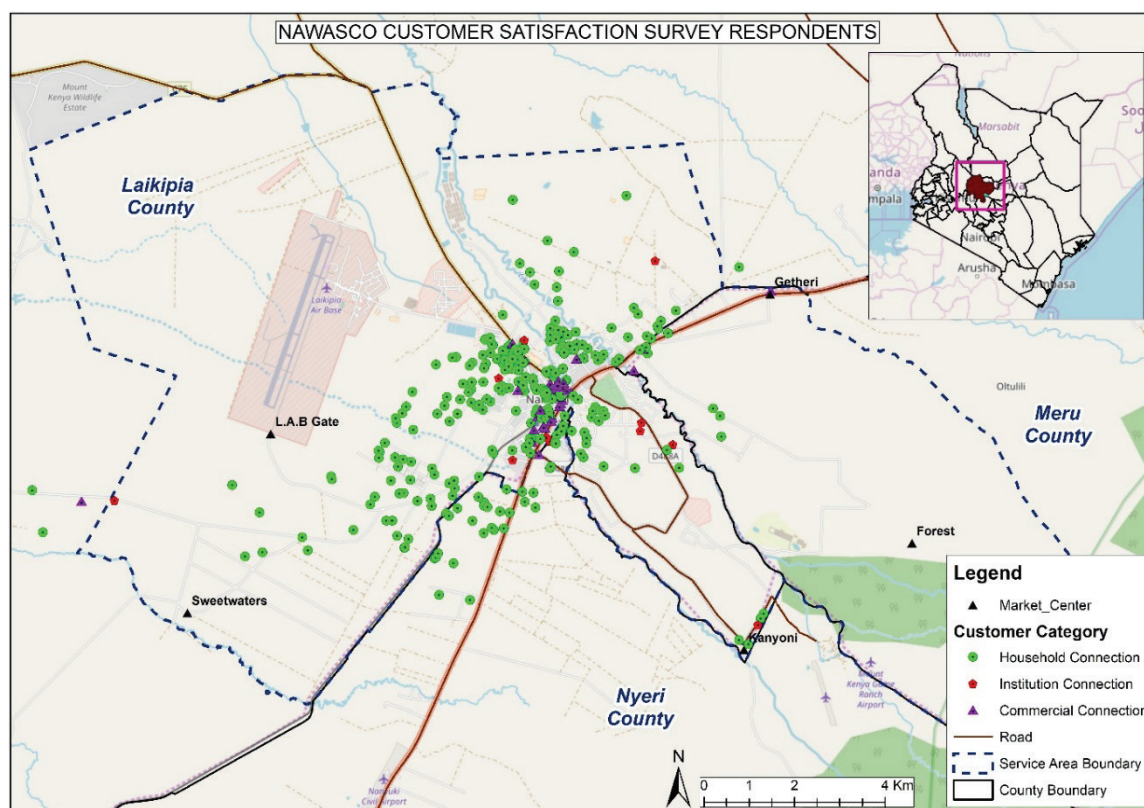
Where:

- X* is the estimated sample size from equation 1.
- N*: The population
- n*: The final sample size

Based on the calculations above, the household sample is representative of the entire population with a 95% confidence interval and 5% margin of error. Respondents were pre-identified through random selection from the NAWASCO provided list and their locations loaded and mapped onto SW Maps, a GIS android application that can collect, present, and share geographic information. This enabled enumerators to navigate through the service area in real time and provide live maps of the enumeration area, zones, and the randomly selected customers. Figure 2 shows the location of the survey respondents within the NAWASCO service provision area (SPA).

² Israel, D. G., 1992, Determining Sample Size,

Figure 2: Location of Respondents



The questionnaire was coded and data collection completed using Computer Aided Personal Interviewing (CAPI). The Open Data Kit (ODK) platform was used for this exercise – ODK is an android based application that provides a user-friendly interface for questionnaire administration. Table 2 provides a summary of the breakdown of the surveys conducted among domestic, institutional and commercial consumers.

Table 2: Breakdown of consumer interviews

Type of Consumer	Number of Surveys
Domestic consumers	332
Institutional consumers	11
Commercial consumers	36
Total	379

1.4 Synthesis

The data collected was cleaned and analysed using MS Excel and compiled to develop a comprehensive customer satisfaction survey report. The report serves largely as a performance assessment document with the recommendation section making up the advisory component of the report.

1.4.1 Definitions

The following definitions were adopted for this study:

- **Customer Satisfaction** - The expectancy-disconfirmation model of explaining customer satisfaction will be applied in this study. The model compares prior expectations regarding water service delivery to current perceptions of actual service delivery. That is, whether expectations were met or not.

- **Service Charter** - this is a document that outlines how the utility will relate with its customers. It includes the services that customers should expect from the utility, how the utility will deliver these services, and the measures in place in case the utility falls short of its service commitments. It also includes the customers obligations to the utility.

1.4.2 Customer Satisfaction Measurement

The Customer Satisfaction ratings for each of the key satisfaction survey areas was captured on a five-point Likert scale. This scale represents survey questions that offer a range of answer options from one extreme attitude to another. The multiple-choice options offered under the survey were: very unsatisfied, unsatisfied, indifferent, satisfied and very

satisfied. The five options were weighted from 0 to 4 with higher numbers assigned to the most positive options. Customer satisfaction ratings were calculated using the formula below:

$$\text{Satisfaction Rate} = \frac{(\text{Actual total Value})}{(\text{Maximum total Value})} \times 100$$

Where:

- *Actual Total Value: The resulting total responses for each choice multiplied by the assigned choice weights*
- *Maximum total value: The total number of responses received multiplied by the maximum weighting value*

The ratings denote how satisfied the population is with specific indicators or services offered by the utility.

1.4.3 RAG Rating

The RAG criteria has been used for easy visualization and interpretation of the satisfaction results. Following a similar scale as that used in WASREB impact reports, the satisfaction ratings from the calculation specified above is summarized in a tabular form using the RAG (“Red / Amber / Green”) rating system: a 4-level scale from ‘red’ (highly unsatisfactory) to ‘green’ (highly satisfactory) based on percentage realization of evaluated indicators of satisfaction levels. Table 3 is a snapshot of the RAG rating scoring mechanism. For instance, if the overall satisfaction rating for an indicator is 70%, the indicator shall be highlighted in amber green, while if another is 81% it shall be highlighted in green.

Table 3: RAG Rating

Indicator	Status			
	Red	Red/Amber	Amber/Green	Green
Score	<50%	51 – 65%	66 – 80%	>80%
Definition	Highly unsatisfactory	Unsatisfactory	Satisfactory	Very satisfactory

1.5 Demographic Factors

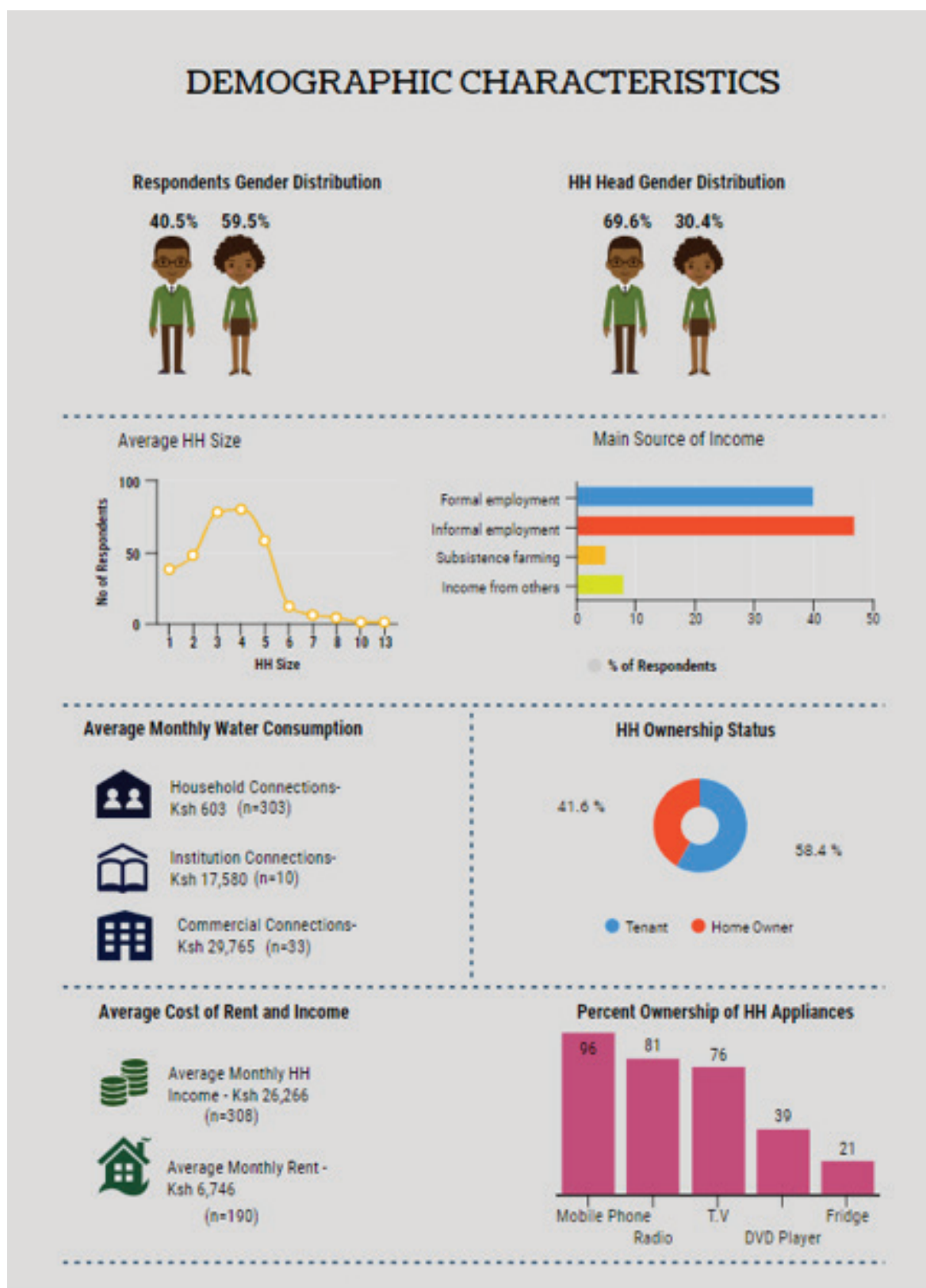
Socio-economic characteristics collected during the study included gender, average household size, the main source of income, household ownership status, average cost of rent, number and cost of common household appliances owned, average monthly income and average spend on water. Figure 3 represents a summary of the demographic characteristics. One of the correlations established in evaluating demographics against water use behaviour is the relationship between household ownership status and spend on water. The average spend on water for all households was seen to be KES 603.

As seen in the table below, home owners, on average, spend more water than persons renting their homes. Per the KIIs, the minimum charges for households consuming 0-6m³ of water per month and without a sewerage connection is KES 230 while those with a sewerage connection are charged KES 515. Further, households with male heads of household generally pay more for water services than those headed by females.

Ownership Status	Respondents with sewage connection		Respondents without a sewerage connection	
	# of Respondents	Average Spend	# of Respondents	Average Spend
Tenant	66	KES 714	54	KES 331
Home Owner	10	KES 1,314	113	KES 554

Gender of Head of HH	# of HH	Average cost of water
Male	216	KES 652
Female	93	KES 488

Figure 3: Summary of demographic characteristics



2. WATER SUPPLY

2.1 Availability and Reliability of Supply

2.1.1 Sources of Water

As described in the methodology, this satisfaction survey targeted NAWASCO customers for an evaluation of their experiences with the utility's services. Of the sampled 379 respondents, 70.7% rely solely on NAWASCO's water supply. The remaining 111 respondents stack their water sources with options being rain water harvesting, bottled water and community water projects as summarized in Figure 4 below. The non-NAWASCO boreholes and river abstraction represent persons relying on community projects. Some of the projects observed included communities with a piped water supply

that draws water from rivers within the reserved Mt. Kenya forest, and communities that collect water from boreholes supported by the Japan International Cooperation Agency (JICA). The most significant proportions, however, are seen to supplement their NAWASCO water supply with either rain water harvesting or purchase of bottled water.

A further investigation of water source stacking indicates that 94% of respondents consider NAWASCO's water their main source of water as well as their main source of drinking water as summarized in Figure 5 below.

Figure 4: Alternative sources of water

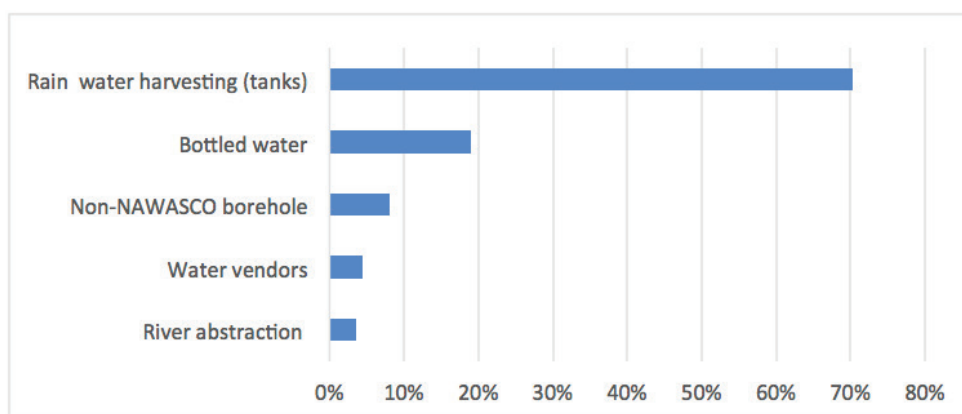
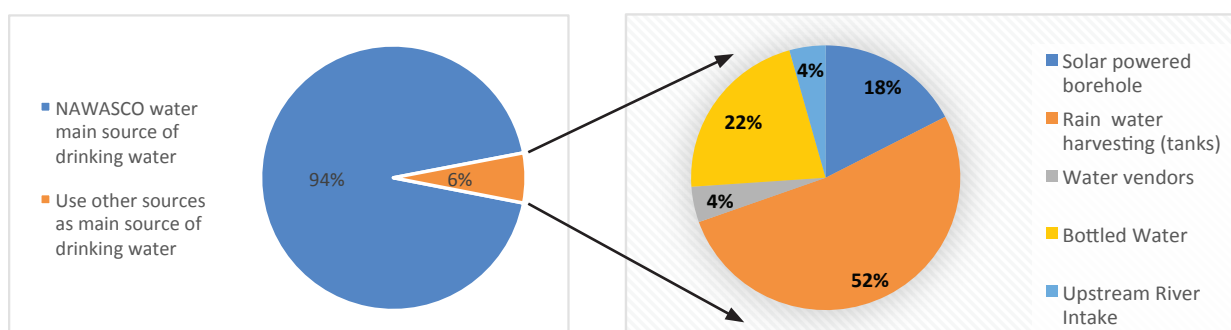


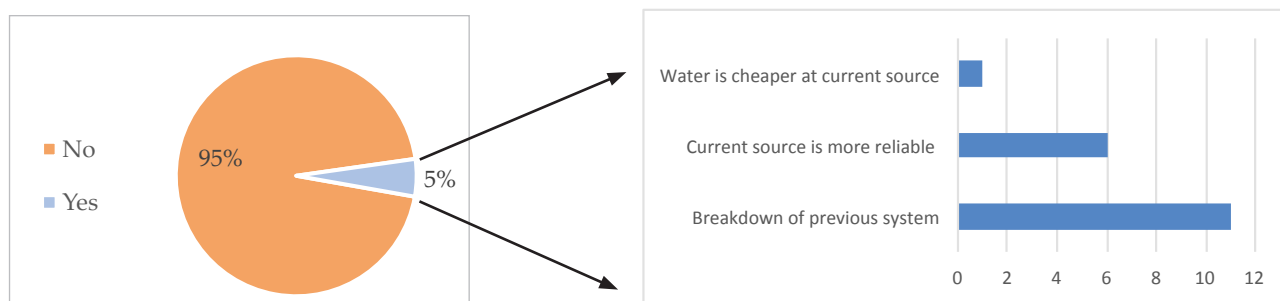
Figure 5 Main Source of drinking water



23 respondents were observed to have changed their main source of water over the past three years. 78% of these (18 respondents) changed from NAWASCO as the main source

of water to an alternate source of water. As seen in Figure 6, the main reasons for changing were either breaking down or unreliability of the NAWASCO supply scheme.

Figure 6: Respondents who have changed their main source of water from NAWASCO

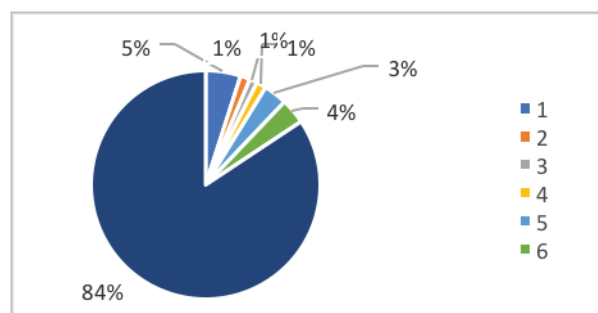


2.1.2 Reliability of Water Supply

The survey indicates that a majority of NAWASCO customers (78%) receive 24/7 water service delivery from NAWASCO. WASREB considers hours of supply as a key performance indicator (KPI) in the evaluation of water utilities. For utilities with target populations above 100,000, the water sector benchmark has three main categories of performance on hours of supply: 21-24 hours of water supply daily is good, 16-20 hours is acceptable while less than 16 is unacceptable. While the 10th WASREB impact report puts the total population within NAWASCO's service area at about 95,280, an interview with the company's managing director indicated that this population has been growing and is now at an estimated 104,000 people. As seen in Figure 7, 94% of

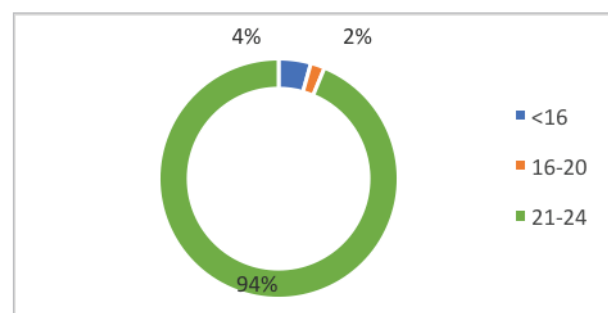
NAWASCO customers receive water for 24 hours on the days when water is supplied. Additionally, 84% of the respondents indicated receiving water daily while 4% and 3% receive water either 6 or 5 days of the week respectively. It may therefore be concluded that NAWASCO is performing relatively well against this KPI. The utility should, however, investigate its water distribution schedules to ensure the human right to water in adequate quantities as well as equity in water delivery services among its target consumers. Having 5% of consumers receiving only a day of service delivery while 84% enjoy 7 days of service delivery highlights an area of concern, and one that requires attention.

Figure 7: Hours of supply on days water is available



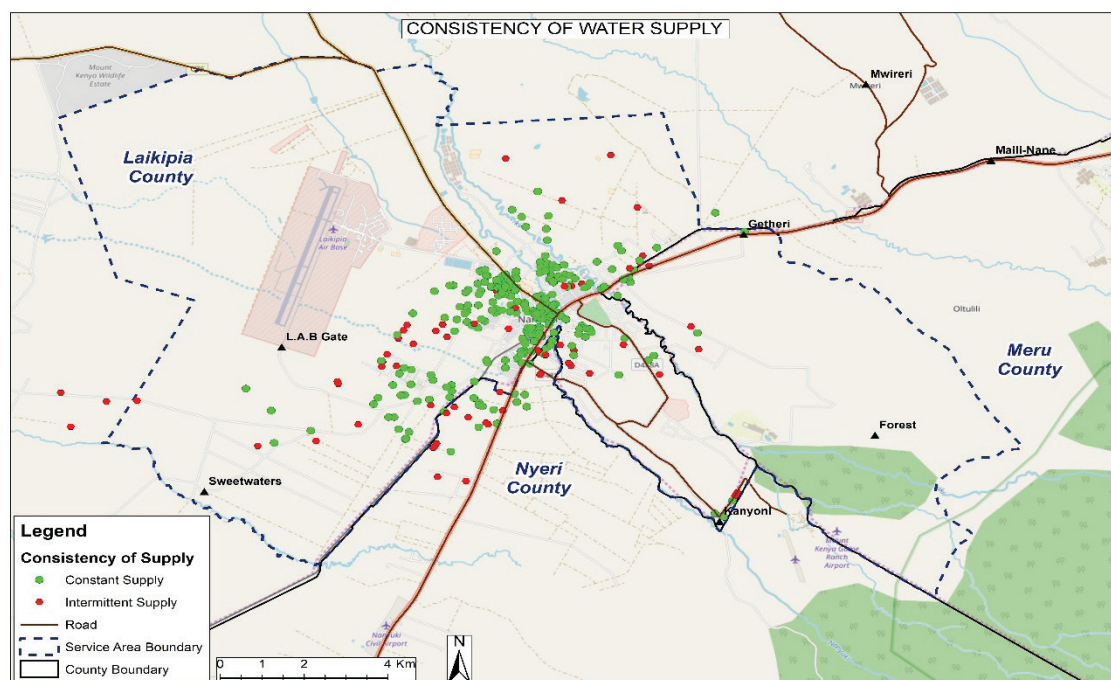
A further analysis on hours of supply showed that consumers within the peripheries of NAWASCO's supply network were a lot more likely to experience intermittent supply of water (red dots) than those within the town area. Intermittent supply was defined as water supply for less than 7 days a week, and less than 20 hours a day. Figure 9 presents a visual of persons receiving consistent supply against those with intermittent water supply.

Figure 8: Days/Week of water service delivery



In addition to hours of supply, WASREB, under its proposed model water services regulations recognizes that continuity of water supply is one of the service indicators for minimum service levels. Where continuity of supply is not feasible, predictability of supply should be ensured through various means including: i) advance notification of customers of supply schedules including times of supply and any planned interruptions, and ii) prompt notification of customers of any unplanned interruptions with communications including cause of interruption and timeframe for resolution.

Figure 9: Consistency of water supply



NAWASCO customers were surveyed on their awareness of a water distribution schedule and 90% noted that the utility does not have one. Among the 10% that were aware of a schedule, 80% (n=28) noted that the utility adheres to that schedule. It is suspected that, given the significant number of NAWASCO residents that receive 24/7 water supply, most residents do not concern themselves with the availability

of a distribution schedule. Triangulating this observation with information from the focus group discussions and key informant interviews, it was noted that NAWASCO does sometimes ration water during the dry seasons. In these instances, the utility communicates the rationing schedule through SMS messages to affected persons as well as posters placed in the affected areas.

Figure 10: Does the utility have a distribution schedule?

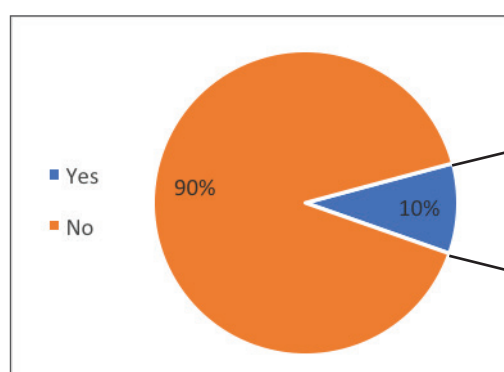
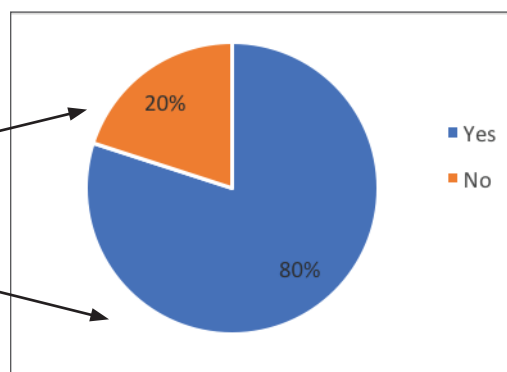


Figure 11: Does the utility adhere to the schedule?



2.1.3 Drinking water quality

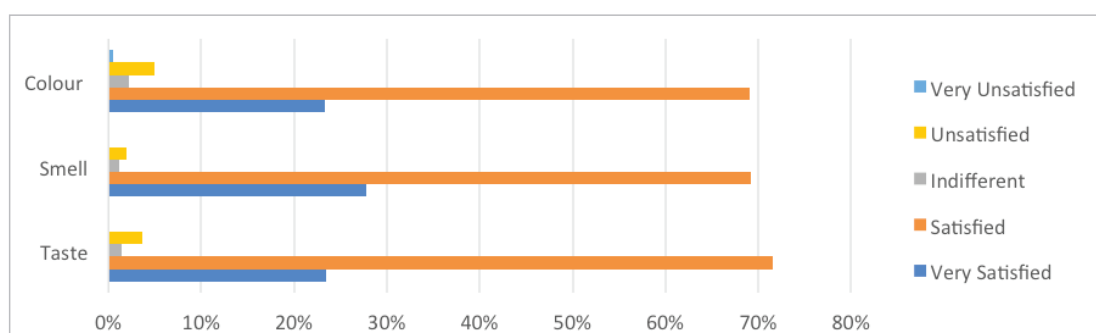
Drinking water quality as measured by the sector regulator WASREB under the drinking water quality KPI is a weighted composite indicator measuring compliance with residual chlorine standards and bacteriological standards. Additionally, the World Health Organization (WHO) and the Kenya national

guidelines for drinking water quality recognize that drinking water should be of acceptable taste, colour and odour to the consumers. This survey did not involve measurement of the WASREB related parameters and therefore an evaluation against this WASREB KPIs could not be carried out. However,

consumer perceptions on the taste, colour and smell were evaluated. Figure 12 below outlines a summary of the overall satisfaction levels for the acceptance perceptions of water supplied by the utility. One of the main concerns over water

quality was the turbidity of water during the rainy season; FGD participants highlighted that the water tends to have a brown colouration during heavy rains.

Figure 12: Customer perceptions on taste, colour and smell



2.2 Service Delivery Satisfaction Analysis

2.2.1 Water Availability and Reliability

In its proposed model water services regulations, WASREB recognizes that as “part of the Service Provision Agreement, [a] water service provider [should] provide a minimum level of service... having regard to [various] service indicators”. Among these indicators are: adherence to water quality standards, delivery of appropriate quantity of water to the population served, continuity of water supply and pressure of water at the point of supply. Table 4 below presents a summary of the satisfaction levels for taste, smell and colour of water. Water colour has the lowest satisfaction rate making it an area for NAWASCO’s focus and improvement.

Satisfaction levels for quantity, reliability and pressure of water supplied were also evaluated among the sampled group. As seen in Table 4 and Figure 13, the satisfaction rate for these indicators is about 70% highlighting avenues for improvement of service delivery for NAWASCO.

Among low hanging fruits to leverage in a bid to improve these satisfaction levels, is a more deliberate effort in informing clients of ongoing projects or those in the pipeline to meet the target demand. Per the FGDs, NAWASCO clients were seen to be cognizant of the fact that the rapid population growth within Nanyuki town creates additional pressure on the currently available water sources. Most participants were, however, unaware of measures in place or planned to meet this deficit, and those who knew of ongoing projects had learnt of them through national news channels. NAWASCO should therefore be deliberate with informing clients of any developments that affect water supply.

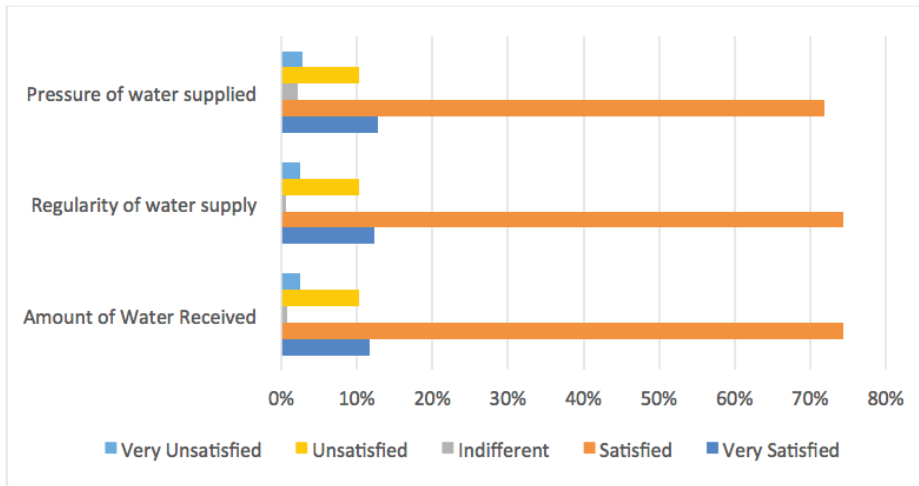
Table 4: Overall satisfaction levels on water supply indicators

Indicators	Rate
Taste	79%
Smell	81%
Colour	77%

Table 5: Overall satisfaction for water acceptability indicators

Indicator	Rate
Amount of Water received	71%
Regularity of water supply	71%
Pressure of water supplied	70%

Figure 13: Satisfaction levels on water supply indicators



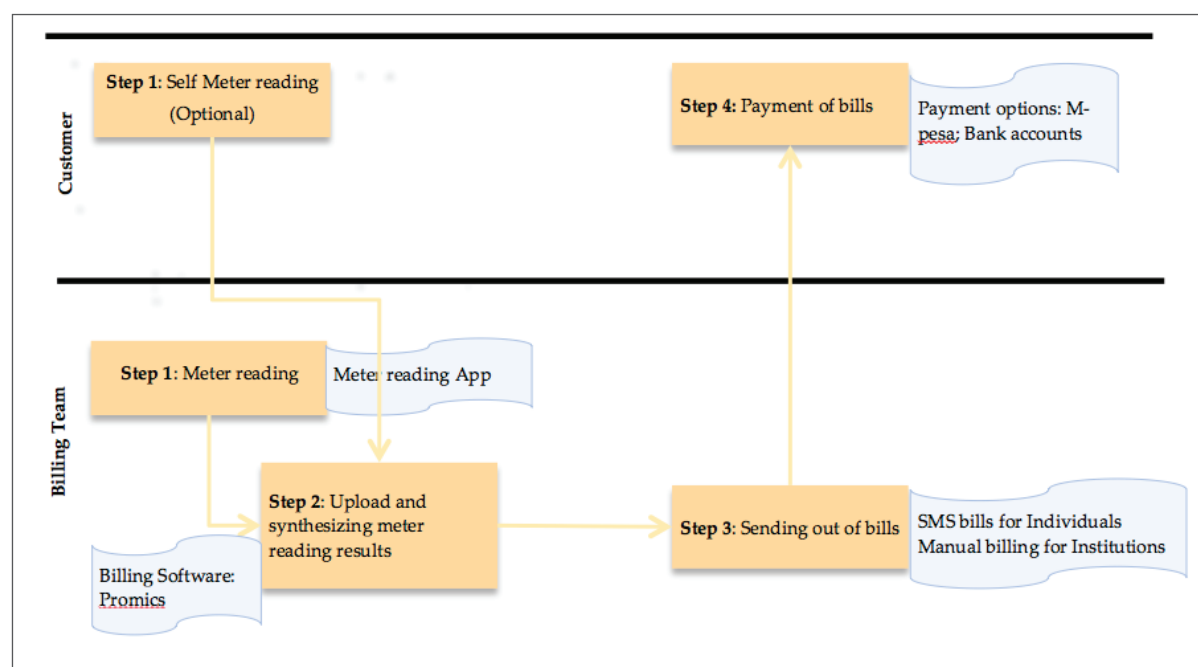
2. METERING, BILLING AND PAYMENTS

Metering and billing is a continuous process at NAWASCO. The utility's clients are divided into 19 blocks that form the basis for the meter reading process. Figure 14 below summarizes the metering and billing process at NAWASCO and as seen, there are two main avenues for meter reading. The first is the option for clients to remit their own meter readings to NAWASCO. This is an opt in preference, and clients are required to provide photographic evidence of the meter reading to the billing office. The second and much more common practice is the engagement of meter readers to record the water consumption. The meter readers use a NAWASCO custom-made meter reading mobile application that allows for i) searching of a client's account number, ii) inputting the meter reading value, iii) error checking of the meter reading

input to detect anomalies, iv) taking a picture of the meter reading, and v) recording the GPS coordinates of the meter reading. Following the reading, meter readers upload the data collected onto the utility's billing application, Promics. Once meter reading entries are validated by the billing officers, Promics allows for auto generation of water bills which are then sent out via SMS for domestic connections. Paper bills are also generated for delivery to those who have opted for manual bills (e.g. schools and government institutions).

NAWASCO clients have various options for payment of water bills. These are payments through M-pesa, various banks including Sidian Bank, Equity Bank, and Post Bank, and institutions such as Posta.

Figure 14: Summary of NAWASCO's metering and billing process



The evaluation on metering, billing and payments looks at the various customer facing aspects of the process such as awareness of tariff structure, timeliness of billing, and payment options.

3.1 Awareness of Tariff structure

NAWASCO consumers generally pay for their water services. An evaluation of whether respondents with domestic connections pay for water services indicated that 87% paid for the service. A further investigation on those who indicated

not paying for water services revealed that they did not pay to NAWASCO because their systems were either broken down or disconnected to water supply, or their water costs were factored into their rents.

Figure 15: Do you pay for water services?

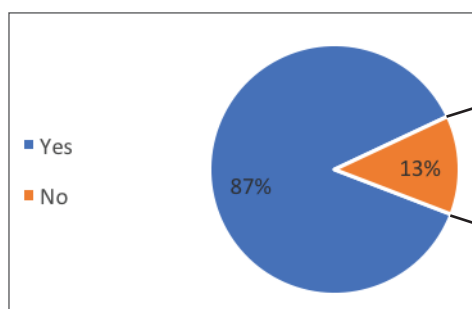
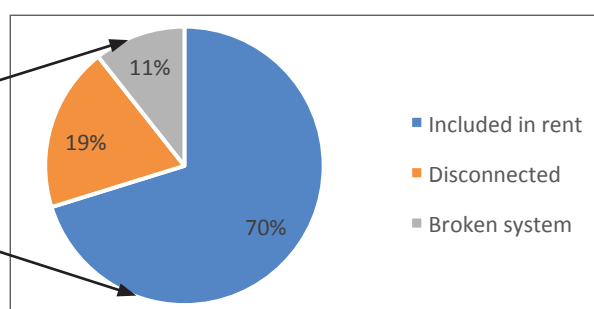


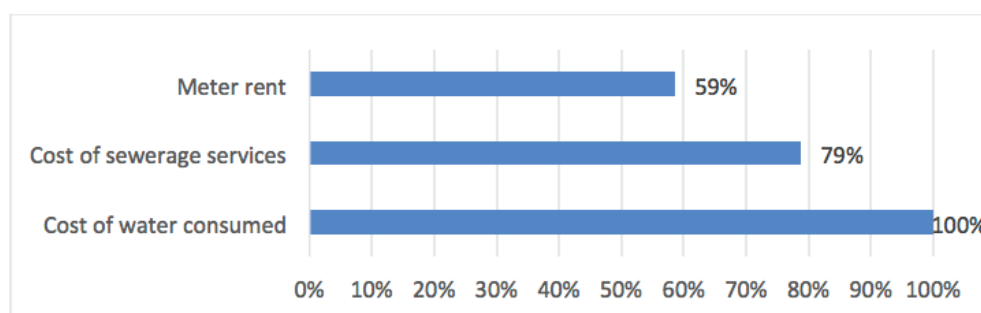
Figure 16: Reasons for non-payment



The WASREB consumer engagement guidelines recognize that among the areas that a utility has a responsibility for information provision to consumers is the ease of access to information on tariffs. To assess consumer awareness on NAWASCO's tariff structure, respondents were asked to indicate the costs included in their NAWASCO bills. Figure 17 highlights responses among respondents with sewerage

connections. Only 79% of respondents were aware that their water costs included sewerage charges. From the KIIs, it was understood that the minimum charge (0-6m³ water consumption) for respondents with sewerage connections is KES 515 per month which includes water costs, sewerage charges, conservation/garbage collection and meter rent.

Figure 17: Awareness of Items included in water bill (among people with sewerage connections)



This graph therefore highlights a limited understanding among NAWASCO consumers of their water structure, and an opportunity for consumer engagement on NAWASCO's end. This observation was further confirmed during the FGDs where participants were seen to be uncertain on calculations involved in determining the water bills. For instance, some respondents put the effectiveness of meter readers in question raising concerns that they are often charged on a flat rate regardless of whether meter readers visited their premises or not. Others were unclear on the graduated tariff, noting that there was no consistency in the bills calculation. While it is

clear from the tariff structure that there is a minimum charge for 0-6m³ of water consumption (KES 515 for consumers with a sewerage connection and KES 230 for those without), this information is not well understood by consumers. NAWASCO should therefore be very deliberate in disseminating the tariff structure to ensure its clients are well informed.

3.2 Timeliness and modes of billing

Information from the key informant interviews indicated that sending out of bills is a continuous process that is contingent on the meter reading process; bills are sent out within 2 days

of meter reading for the various blocks. A majority of the respondents (90%) are of the perception that they receive their bills on time.

Echoing sentiments from the KIIs, most respondents noted that they receive their water bills through SMS, and this is also their preferred mode of receiving water bills. Figure

19 summarizes the current mode of receiving bills against preferred modes. As seen, there is a 5% of the sample that would prefer to receive their water bills via SMS as opposed to the current modes. This highlights an opportunity for NAWASCO's consumer engagement and education on the process of changing billing options.

Figure 18: Do you receive your bills on time

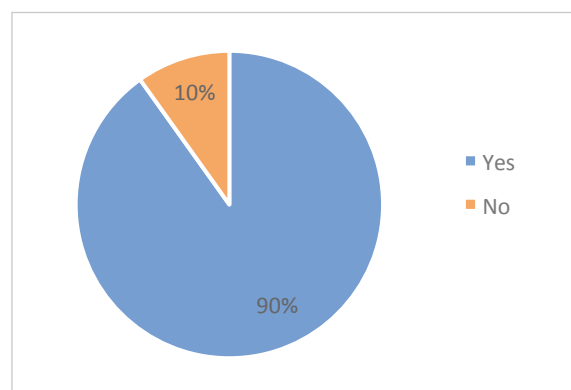
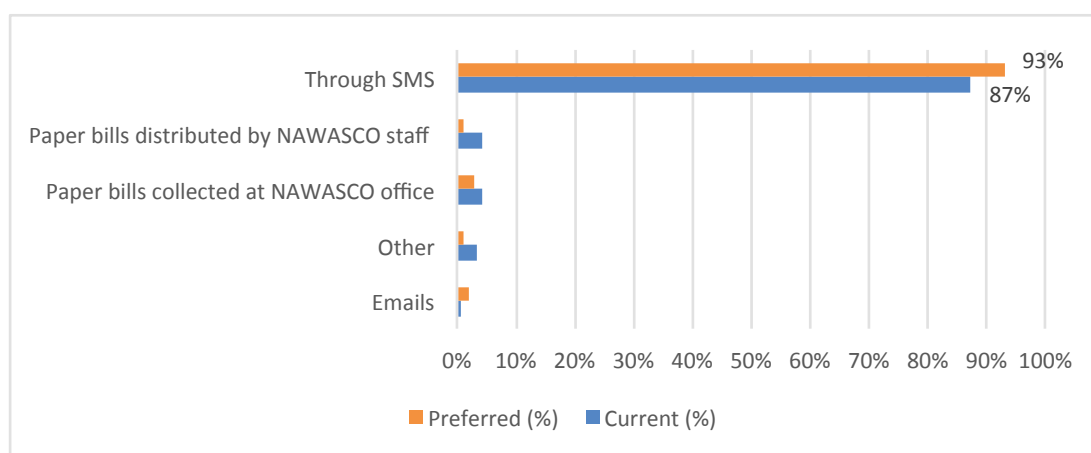


Figure 19: Modes of distribution of water bills

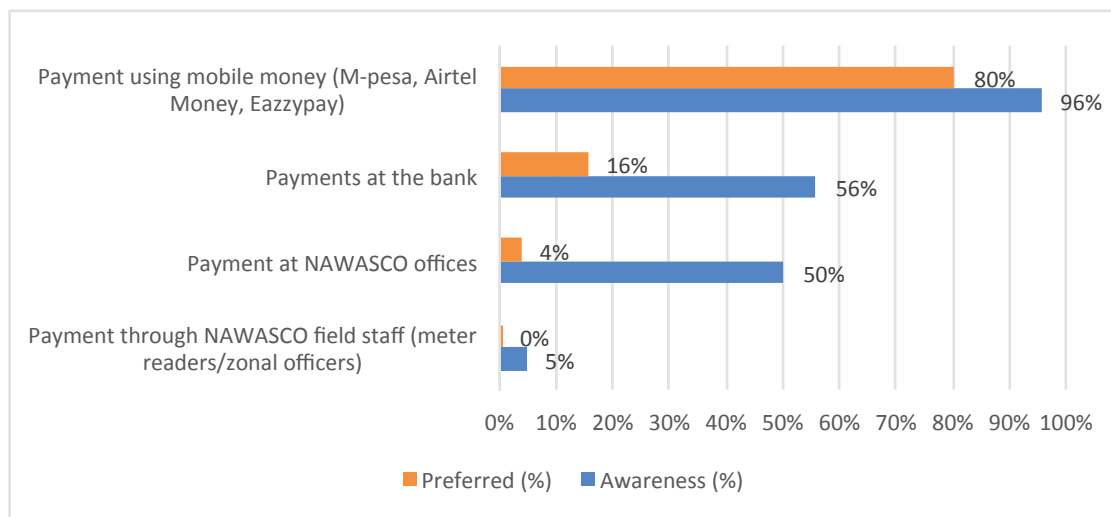


3.3 Awareness of bill payment options

NAWASCO has various avenues through which customers can settle their water bills. These include payments through M-pesa's Paybill service, payments through banks (Equity Bank, Sidian Bank and Post Bank), and payments through Posta. Respondents were asked to highlight the avenues that they were aware of for making bill payments to NAWASCO and Figure 20 summarizes the responses. Among significant observations is that a majority of respondents are aware of the M-pesa Paybill service and consider this their preferred mode of making payments. However, it is concerning to note that at least 50% of the sample is of the perception that

payments can be made directly at the NAWASCO offices and a 5% consider payments directly to NAWASCO field staff as an avenue for payments. From the KIIs, it was understood that NAWASCO operates under cashless transactions with all payments made via mobile money or bank transfers. While a dismal percentage (4%) consider either of these two cash transactions their preferred avenue for payments to NAWASCO, this observation highlights a significant need for consumer awareness campaigns on the various payment channels to help curb an avenue for unaccountability of funds.

Figure 20: Avenues for bills payment



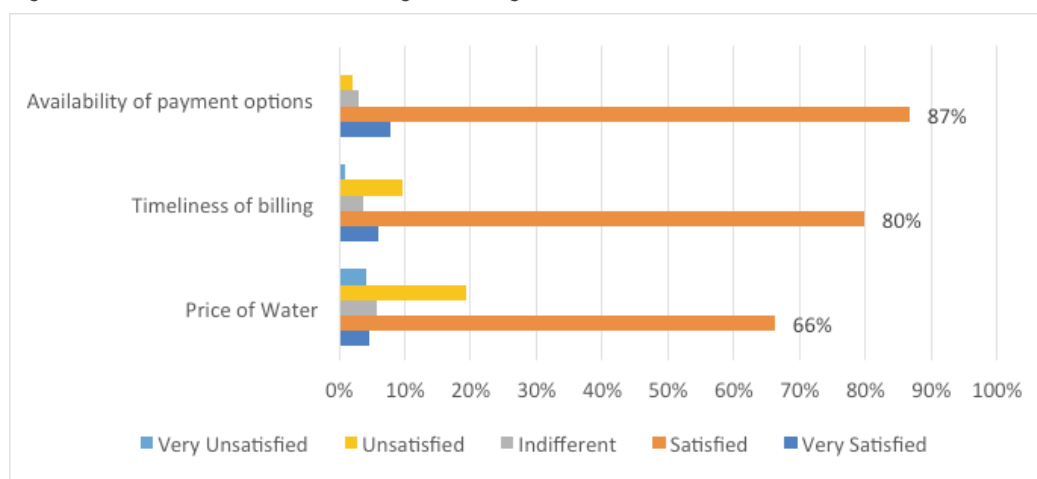
3.4 Metering, billing and payments satisfaction analysis

As highlighted in Figure 20 above, most NAWASCO customers are aware of and prefer to settle their water bills through the M-pesa Paybill platform. It is likely that this alignment of awareness and preference has contributed to the significant number of respondents who are either satisfied or very satisfied with the availability of payment options as presented in Figure 21.

On metering and billing, NAWASCO was seen to have a relatively well-defined metering and billing structure with good coordination between meter readers and billing officers. The adoption of technological solutions has also contributed to increased efficiency in the utility's operations. For instance, the use of a mobile meter reading app with provisions for

photography and recording of geolocations has increased transparency in the meter reading process. It has also mitigated the risk of erroneous billing through detection of anomalies in consumption levels at the meter reading point and through automated data upload onto the utility's billing software, Promics, that reduces risks for human error. It was also highlighted that Promics has the capability to generate and send out water bills within a very short duration of meter reading entries being synced with the software. It is this capability that was affirmed by participants of FGDs who noted that NAWASCO is very efficient in sending out bills. It was noted that there are many instances when the SMS bills are sent out on the same day as the meter reading exercise. Consequently, most NAWASCO consumers are either very satisfied or satisfied with the timeliness of billing.

Figure 21: Satisfaction levels for metering and billing indicators



The price of water was seen to have the lowest satisfaction score under this category among surveyed consumers. As earlier highlighted, one avenue through which NAWASCO may address these satisfaction score is raising awareness on the tariff structure. The utility currently does not have a valid tariff structure approved by WASREB. Efforts should therefore be directed towards implementation of an approved tariff, and this should be accompanied by very deliberate and targeted campaigns to educate consumers on how their water bill is

calculated. Inclusion of the costing breakdown in the SMS bill is one avenue to address this lack of awareness. Among other things, this will help address concerns over the effectiveness of meter readings and concerns of 'flat rate' charges regardless of consumptions, which are seen to be among contributors of the low satisfaction rates for price of water. Table 6 below summarizes the overall satisfaction scores for metering and billing.

Table 6: Overall score for satisfaction indicators for metering and billing

Indicator	Rate
Price of water	62%
Timeliness of billing	70%
Availability of payment channels	75%

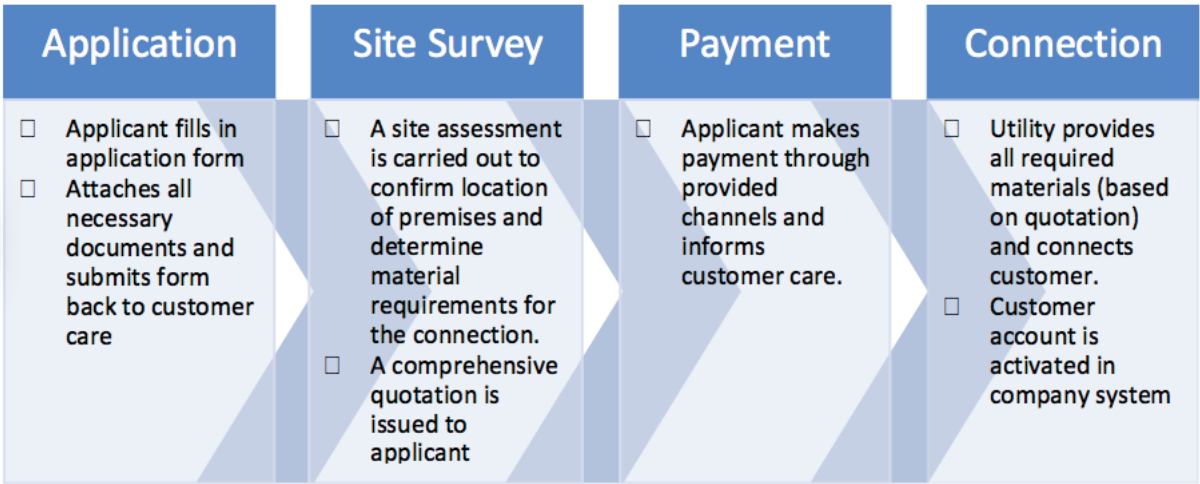
3. CONNECTIONS, DISCONNECTIONS AND RECONNECTIONS

Information on the connection, disconnection and reconnection process was obtained through KIIs with utility staff and FGDs with selected NAWASCO customers. This information was cross-referenced with data collected through household, institutional, and commercial interviews.

4.1 Connections

Information from KIIs indicated that NAWASCO’s connection process takes place in 4 main steps as summarized in Figure 22 below.

Figure 22: NAWASCO’s new connection application process

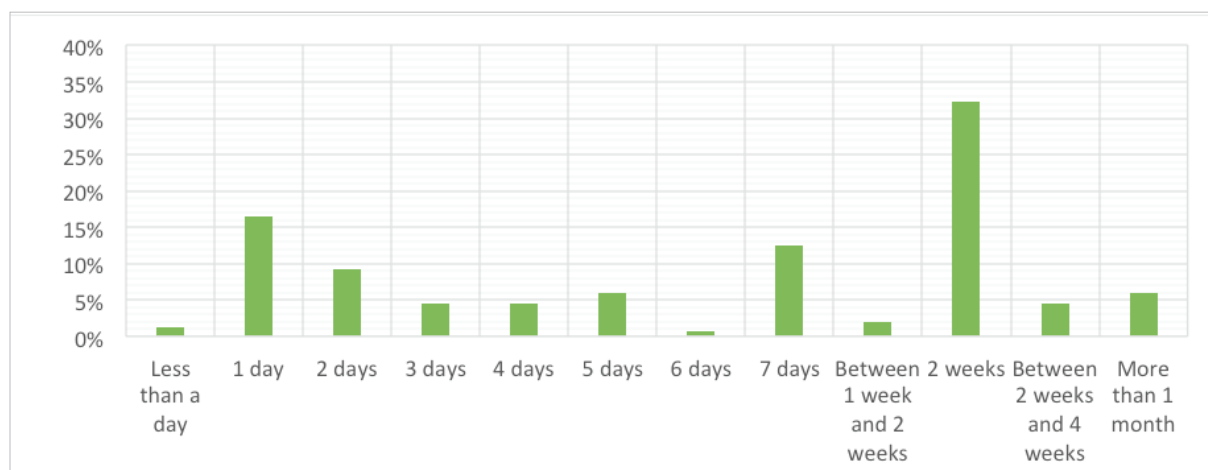


A cross-index of NAWASCO’s connection process and the procedures and principles recommended in part III of WASREB’s model water service regulations shows relative alignment. For instance, the utility has a standard application form that highlights the nature of the services to be provided and lays out the terms and conditions of the services (e.g. surcharge on illegal connections) as recommended by the model regulations.

new connections should be effected “within five business days or on an agreed day, once the conditions for connection including fees and other charges are satisfied”. Results from the customer survey, however, indicated that periods for installation of new connections vary from one day to more than 1 month. It was observed that it took an average of 13 days for the 219 customers (58%) of respondents who said they had in the past applied for a new connection from NAWASCO to get a new connection. Figure 23 below shows the length variation as indicated by respondents.

One of the issues arising from the KIIs was inconsistency in the duration it should take to get a new connection. According to the utility and as reflected in the current Service Charter,

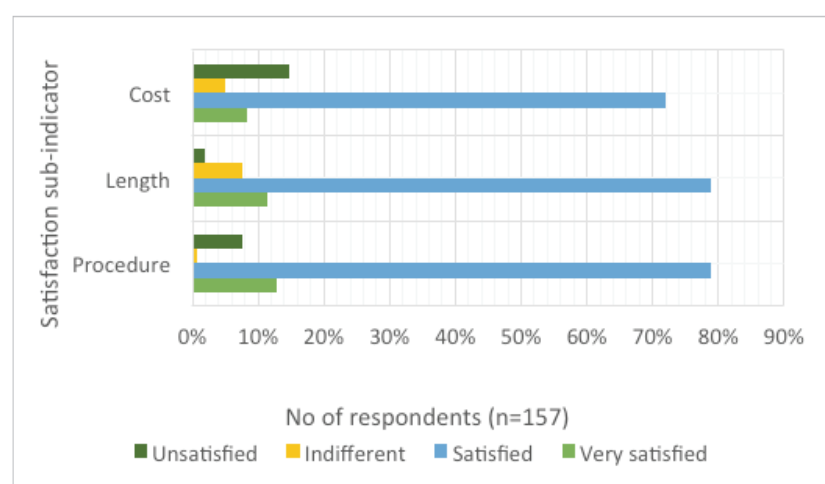
Figure 23: Number of days it took to get connected after payment



An examination of the customer satisfaction levels with regards to getting a new connection shows that customers are generally satisfied with the procedures involved, the length of

time it took, and the costs involved. Figure 24 below shows a breakdown of the satisfaction rating reported for the 3 sub-indicators.

Figure 24: Satisfaction levels in getting a new connection.



Satisfaction Indicator	Satisfaction Rating
Procedure of getting new connection	74.20%
Length/duration of getting new connection	72.61%
Cost of getting new connection	68.47%

4.2 Disconnections

According to NAWASCO, any customer with arrears at the beginning of a consequent billing period is due for disconnection. 29% (105) of the respondents indicated having experienced a disconnection from the water supply due to varied reasons. The main reason for disconnection as cited by the 72 respondents was late payments. Misunderstandings

with NAWASCO was second at 10% (11). Another 10% of the respondents indicated that they had been disconnected from the water supply due to a lack of water in the area (see Figure 25 below). Information collected from FGDs with NAWASCO's customers indicated that customers did not clearly understand the conditions under which one would be disconnected from water supply. For example, one of the

discussions raised was whether irrigating using NAWASCO water warranted a disconnection if one paid for all the water consumed. Some respondents noted that disconnections had arisen from irrigation activities while others indicated having an alternate experience.

Discussions with NAWASCO staff indicated that the utility does not always issue warning messages to customers with arrears but only does so when carrying out mass disconnections. Of the consumers who had experienced a disconnection, only 31 respondents (30%) indicated having received a disconnection notice prior to the disconnection.

Figure 25: Reasons for disconnections

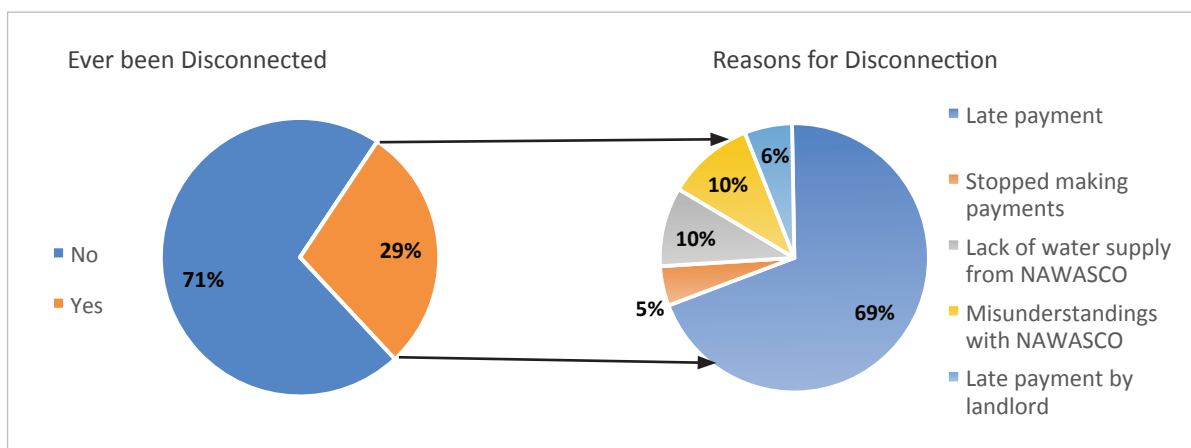
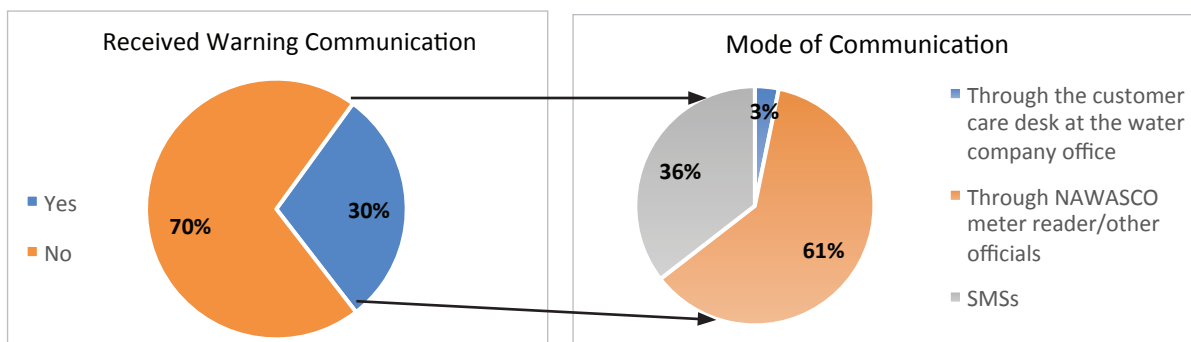


Figure 26: Customers who received a disconnection warning and the mode of communication used



Of the 31 individuals who received disconnection notices, 19 of them received the communication from the utility's meter readers. 11 received the communication through SMS while one of the respondents indicated to having received the communication at the utility's office.

4.3 Reconnections

According to the utility, reconnections should be done within one working day after clearance of all arrears and payment of a KES 500 reconnection fee. For users found having tampered with the water meters or the water supply lines, reconnection is only done when they have settled the full amount of their estimated consumption bill and having paid the reconnection fee of KES 500.

The utility affords its customers flexibility in repaying back their dues through instalments, but this varies on a case to case basis. Only 12 respondents indicated to having requested for a part-payment plan from NAWASCO. 9 of these requests were granted while the remaining 3 were denied. The utility should aim to sensitize its customers on the availability of such payment plans to reduce the rate of customers opting out of NAWASCO's services.

Results show that reconnections took an average of 1 day after notifying NAWASCO that payments had been made. This information validates the information from the KIIs where it was mentioned that reconnection takes place every afternoon so long as a list of customers to be reconnected is availed to the revenue office.

An analysis of the satisfaction levels of the customers with regards to the disconnection and reconnection process indicated a 51% and 69% satisfaction rating for notice periods given for disconnections and the time it takes to reconnect customers respectively.

Table 7: Satisfaction rating for disconnection notices and the time it takes to reconnect customers

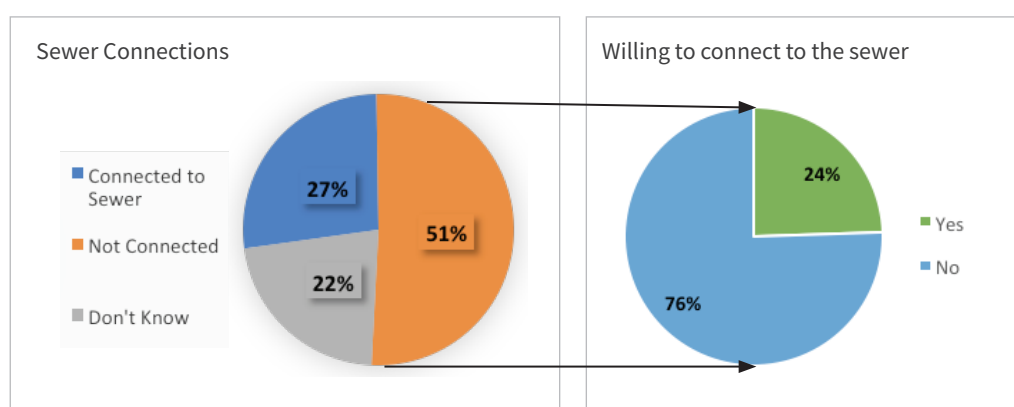
Indicator	Satisfaction Rating
Notice period for disconnections	51%
Time it takes for reconnection	69%

4. SEWERAGE SERVICES

An assessment of NAWASCO sewerage services indicated that only 27% of the respondents were connected to sewerage services at the time of the survey. This number is within the utility's estimation of its sewerage coverage which was

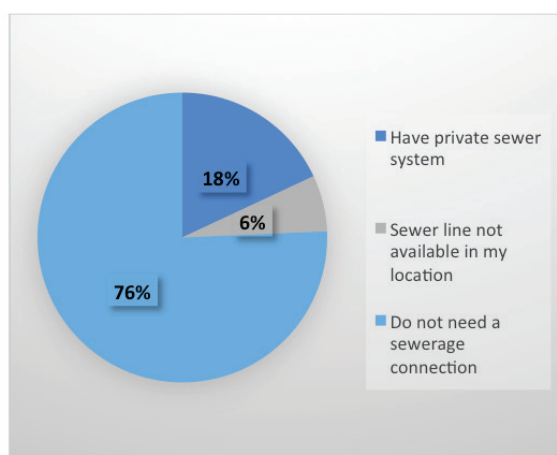
estimated at between 30%-35%. 22% of the respondents did not know whether they were connected to NAWASCO's sewer system or not (see Figure 27 below).

Figure 27: Customers with sewer connections.



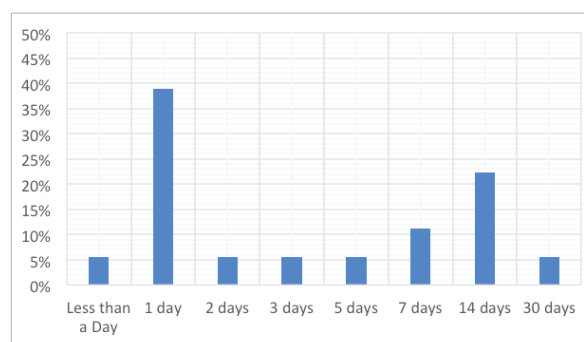
Of the 192 respondents not connected to NAWASCO's sewerage services, 76% indicated that they were not willing to connect to NAWASCO's sewer system. The main reason for not willing to connect was because respondents rely on alternative sanitation systems such as pit latrines. Only 6% of the respondents cited unavailability of sewer services within their locality as the reason for not connecting to NAWASCO's sewer system.

Figure 28: Reasons cited for not connecting to NAWASCO's sewer.



Only 19% of the respondents indicated having ever applied for a sewerage connection from NAWASCO. Discussions with NAWASCO staff indicated that the sewer connection application process is similar to that of a new water connection and should be done within 5 days upon receipt of full payment. Results from the customer interviews indicate varied responses on the length of time it took to get connected to the sewer network ranging from less than a day to 30 days. About 48% of the respondents mentioned that it took approximately one day to get a sewer connection (see Figure 29 below).

Figure 29: Number of days it took to get a sewer connection



57% NAWASCO customers who have applied for sewer connections found the sewer connection fees affordable. A closer look at the satisfaction levels with regards to getting a new sewer connection highlighted a 65% satisfaction rating for the procedure, length and cost of getting a new sewer connection (see Figure 30 below)

Figure 30: Satisfaction levels on NAWASCO's sewerage connection process

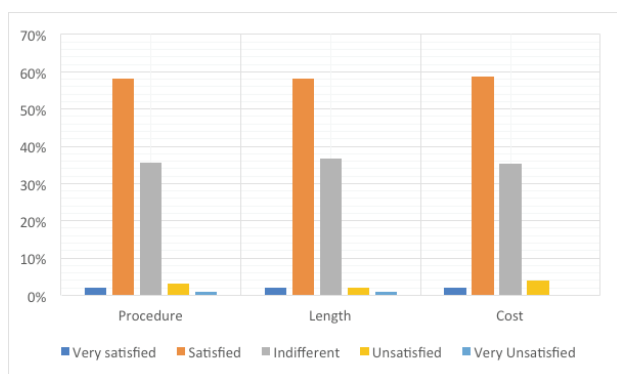


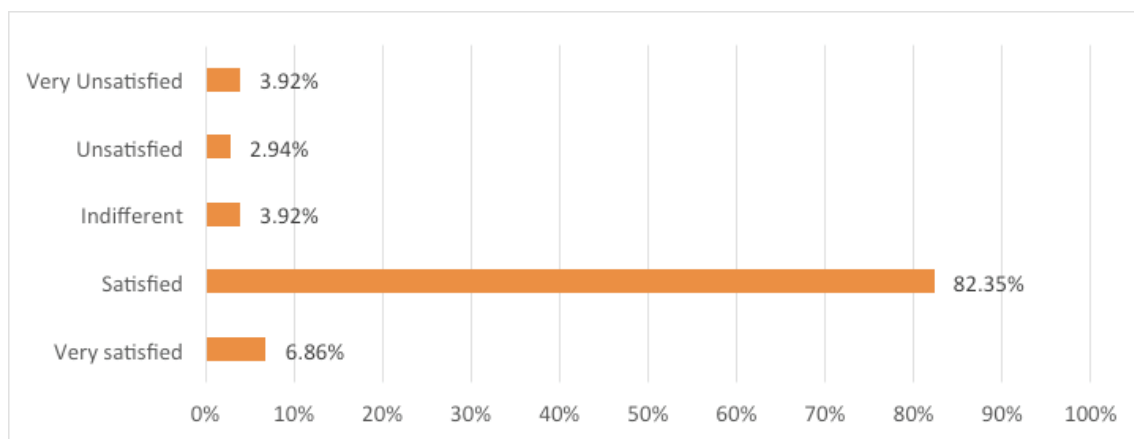
Table 8: Satisfaction ratings for procedure, length, and cost of getting a sewer connection

Table 8 highlights the overall satisfaction ratings with regards to procedure, length, and cost of getting a new sewer connection.

Satisfaction Indicator	Satisfaction Rating
Procedure	64.29%
Length	64.54%
Cost	64.65%

Beyond the process of getting a new connection, consumers with a NAWASCO sewerage connection were generally satisfied with the level of service received. The overall satisfaction rating with regards to sewerage services stood at 71.32% with the distribution seen below.

Figure 31: Satisfaction rating for sewerage services



5. COMMUNICATION AND COMPLAINT HANDLING

6.1 Communication

WASREB's Consumer Engagement Guidelines stipulate that WSPs are responsible for regularly communicating and engaging with consumers in their service areas on matters regarding the provision of water and sanitation services. These guidelines also emphasize the need for water utilities to put in place effective and efficient communication channels that allow customers to engage freely with the utility. Discussions with NAWASCO informed that the utility communicates with its customers on application processes, billing, disconnection,

scheduled interruptions/rationing schedules, and during events such as barazas that require customer participation. However, results from the customer satisfaction survey revealed that, excluding billing, 93% of the respondents had not received any other form of communication from NAWASCO (see Figure 32). Of the 7% who had received communication from NAWASCO, 41% indicated that information received was on the utility's billing and metering platforms while only 15% (4) of the respondents had received information on the utility's water distribution schedule (see Figure 33 below).

Figure 32: No of respondents who had received communication

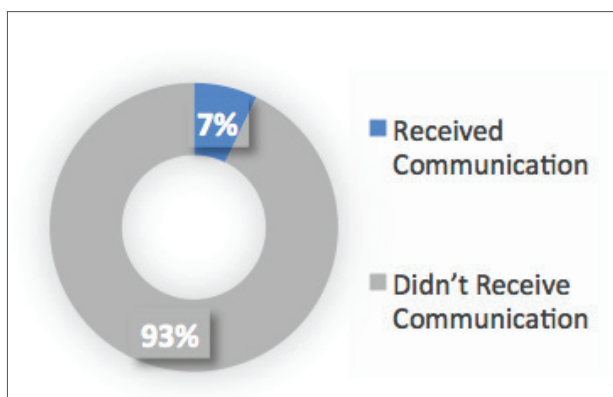
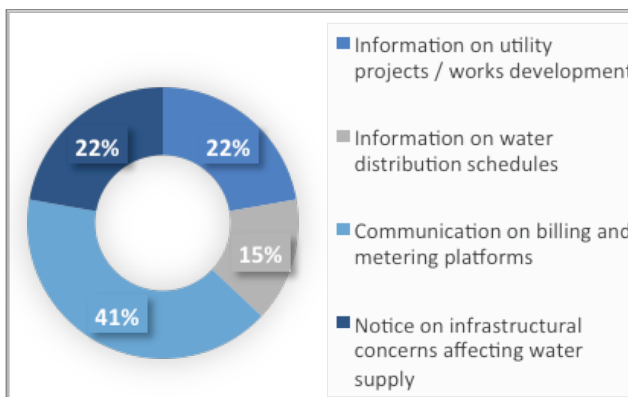


Figure 33: Nature of communication received

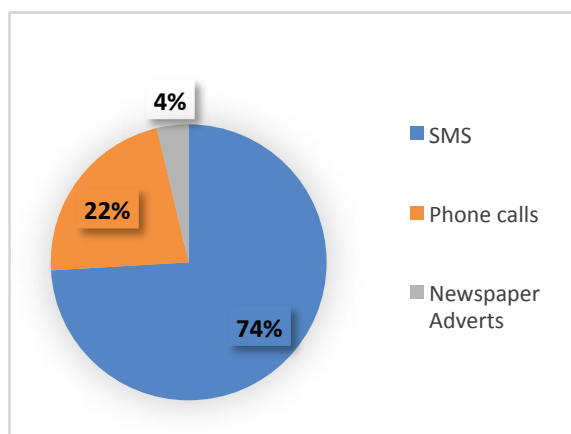


6.1.1 Communication Channels

Discussions with NAWASCO indicated that the utility uses various communication channels to communicate with its customers including, direct contact through meter readers, SMS, social media platforms (utility's Facebook platform), posters within the service area, and phone calls. An examination of the customer satisfaction survey results indicated that the most used mode of communication was through SMS with 36% (10) of the respondents aware of this channel. Other channels known to the customers are through meter readers, posters, phone calls, newspaper adverts,

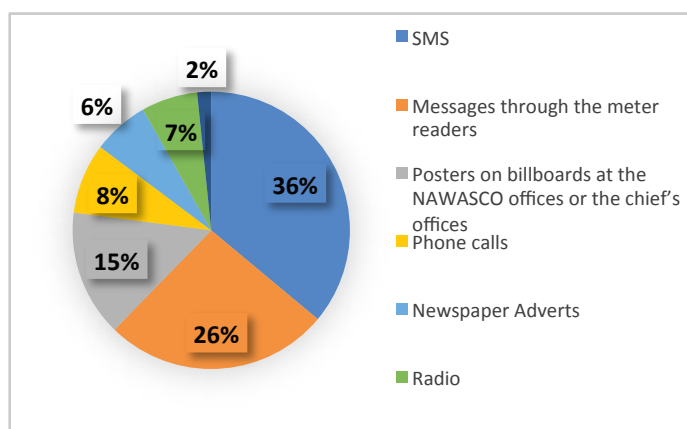
and through local radio stations reported by 26% and 15%, 8%, 6%, and 7% of the respondents respectively as shown in Figure 35 below. The least known form of communication from NAWASCO was through social media with only 2% (1) of the respondents aware of this channel. These results emphasize the need for NAWASCO to carry out targeted communications by understanding the different social groups within its customer base to enhance effective communication and dissemination of information to its customers.

Figure 34: Preferred mode of communication



74% of the respondents who had received communication from NAWASCO before indicated that their most preferred channel of communication from the utility was through SMS. 22% preferred phone calls while the remaining 4% preferred newspaper adverts (see Figure 34 above). While sending out SMSs to customers may be expensive to the utility, discussions with NAWASCO indicate that sending out SMSs is the most effective way of communicating as 97% of the respondents indicated to owning mobile phones and the utility has telephone contacts of all their customers. Majority of institution and commercial customers preferred to receive information through phone calls as the person's in charge may change from time to time.

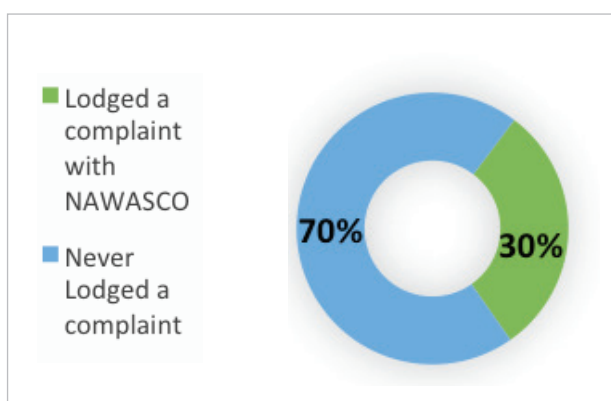
Figure 35: Communication channels used by NAWASCO



6.2 Complaint Handling

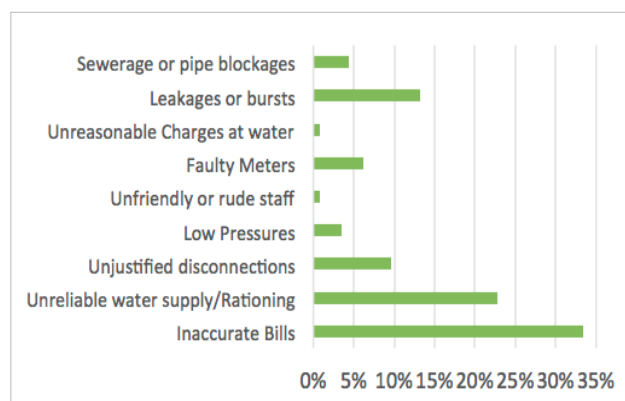
According to WASREB's Consumer Engagement Guidelines, WSPs have a responsibility to swiftly resolve consumer complaints. As shown in Figure 36 below, 70% of the respondents reported to having lodged a complaint with the utility before. Majority of the complaints filed with NAWASCO were inaccurate billing and unreliable water supply accounting for 33% and 23% of the responses respectively (see Figure 37 below).

Figure 36: Customers who have lodged complaints



The most widely used form of communication reported by the respondents was reporting to the utility customer care desk with 64% (73) of the respondents indicating to having used this method before. Informing meter readers was the second

Figure 37: Reasons for filling complaints



most widely used method of lodging complaints with 46% (52) of the respondents. SMS was the least used avenue with only 3% (3) as highlighted in Figure 39 in the next page.

Figure 38: Was the complaint resolved?

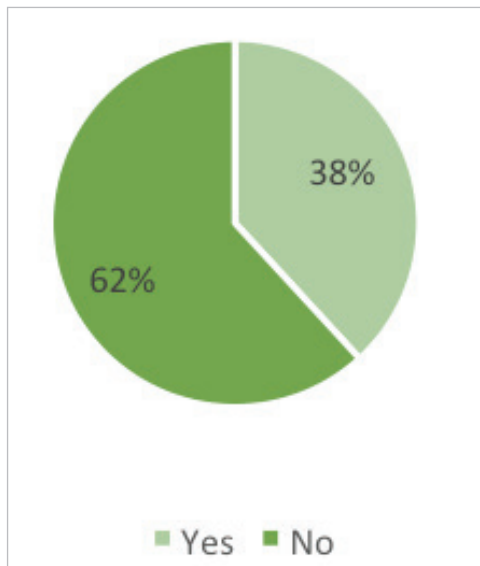
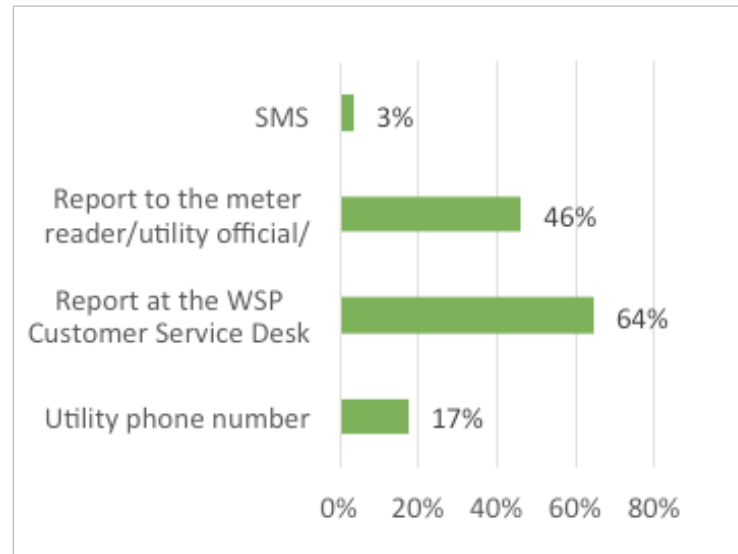


Figure 39: Channels used to communicate with NAWASCO



An examination of the settlement rate of the issues reported indicates that only 38% of the filed complaints were resolved (see Figure 38 above). Results from the customer satisfaction survey indicate that on average, it takes approximately 9 days for the utility to respond and resolve the complaints filed by the consumers.

Reviewing the satisfaction levels on the availability and affordability of communication channels used indicate that 74% and 75% of the respondents were satisfied with the available channels and found the channels affordable

respectively. For customers who had filed complaints with the utility before, 65% were satisfied with the length of time taken to restore water while 63% were satisfied with the time taken to respond to complaints. Across the five sub-indicators, the time taken to restore water and to respond to complaints had the highest number of unsatisfied respondents with 13% and 14% dissatisfied with these sub-indicators (see Figure 40 below). 70% of the respondents indicated that they were happy with the courteousness of NAWASCO's staff.

Figure 40: Satisfaction levels on communications and complaints handling

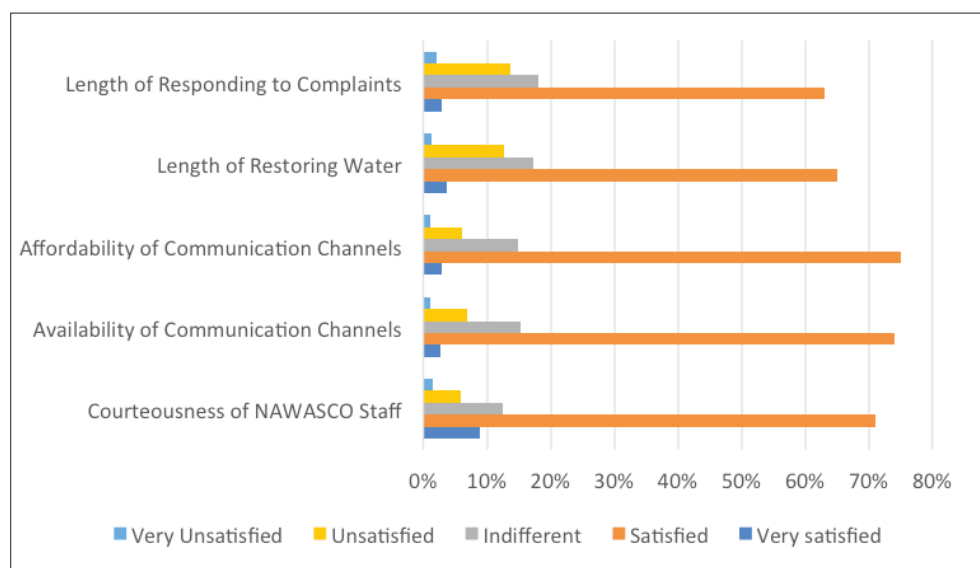


Table 9 below highlights the overall satisfaction ratings for the different sub-indicators under the communication and complaint handling aspect.

Table 9: Satisfaction ratings for the different sub-indicator under communication and complaint handling

Indicator	Overall Satisfaction Rating
Courteousness of NAWASCO staff	70%
Availability of communication channels	68%
Affordability of communication channels	68%
Time taken to restore water in case of interruptions	64%
NAWASCO response time to customer complaints	63%

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

7.1.1 Overall Customer Satisfaction

Satisfaction in NAWASCO was assessed using 23 sub-indicators broadly grouped into six categories; i) water quality, ii) water availability and reliability, iii) metering and billing, vi) connections, disconnections and reconnections, v) sewerage

services, and vi) communication and complaint handling. Table 10 below summarizes the average satisfaction rating observed for each of the categories.

Table 10: Summary of Satisfaction levels for the different indicators

#	Indicator	Satisfaction Rating
A	Water quality	
1	Taste	79%
2	Smell	81%
3	Colour	77%
B	Reliability and Availability of water supply	
4	Amount of Water received	71%
5	Regularity of water supply	71%
6	Pressure of water supplied	70%
C	Metering and Billing	
7	Price of water	62%
8	Timeliness of billing	70%
9	Availability of payment channels	75%
D	Connection, Disconnection and Reconnections	
10	Procedure of getting new water connection	74%
11	Length/duration of getting new water connection	73%
12	Cost of getting new water connection	68 %
13	Notice period for disconnections	51%
14	Time it takes for reconnection	69%
E	Sewerage Services	
15	Overall satisfaction with sewerage services	71%
16	Procedure of getting new sewerage connection	64%
17	Length/duration of getting new sewerage connection	65%
18	Cost of getting new sewerage connection	65%
F	Communication and complaint handling	
19	Courteousness of NAWASCO staff	70%
20	Availability of communication channels	68%
21	Affordability of communication channels	68%
22	Time taken to restore water in case of interruptions	64%
23	NAWASCO response time to customer complaints	63%

Respondents were further asked to rate their overall satisfaction with the services provided by NAWASCO, factoring in the various indicators evaluated under this survey. The overall satisfaction was 71% with the breakdown provided in Figure 41 below.

Zooming into the results, the highest satisfaction levels are seen with regard to water quality. Areas of concern on the other hand are highlighted in amber-red and highlight areas of focus for NAWASCO if the utility is to improve on customer satisfaction rating. Key among these low satisfactory areas

are notice period for disconnections at the lowest score of 51%, the price of water at 62% and NAWASCO's response to customer complaints at 63%. These areas of concern form the basis for this evaluation's recommendations. However, the greatest influence on the satisfaction rating is seen to be reliability of water supply. Figure 42 below is a map of the overall satisfaction rates for consumers. As seen, the map is highly consistent with the map of reliability of water supply (Figure 9). Persons with intermittent water supply are the same ones seen to be either very unsatisfied or unsatisfied with NAWASCO's services.

Figure 41: Overall Satisfaction of NAWASCO Customers

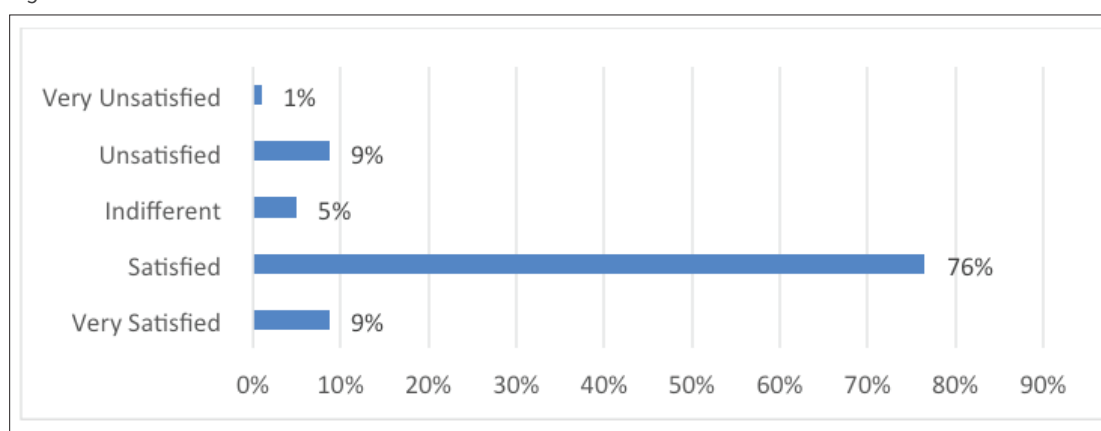
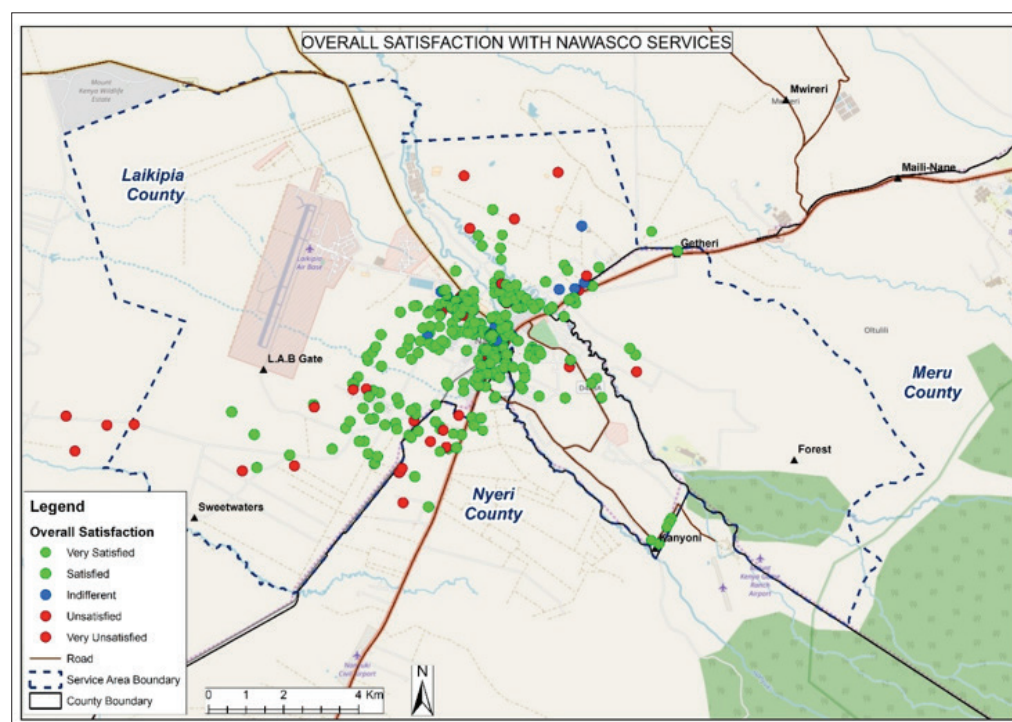


Figure 42: Map of overall satisfaction of NAWASCO customers



7.2 Recommendations

One of the main objectives of conducting a customer satisfaction survey was to understand the satisfaction levels among NAWASCO customers for insights on how to review and update the utility's service charter. The following recommendations are therefore presented with the aim of aiding NAWASCO to deliver the commitments made on the charter. The recommendations are based on identified gaps in NAWASCO's current service levels and their implementation is aimed at enabling the operationalization of the proposed Service Charter.

7.2.1 Recommendations: general operations

7.2.1.1 Application for service licence

With the enactment of Water Act 2016, Water service providers are required to apply for operating licences from the sector regulator WASREB. It is recommended that NAWASCO pursues this licence as it is the document under which its activities and service provision levels (including tariff structure and customer service charter) are anchored.

7.2.2 Recommendations: Water Supply

7.2.2.1 Develop and communication water distribution schedule

As highlighted above, one of the most significant contributors of dissatisfaction with NAWASCO's service levels is unreliability of water supply. As such, the utility should

prioritize the development of a water distribution schedule for all areas that do not receive 24/7 service. The schedule should be communicated through various channels including SMS, posters in the affected areas and SMS to the affected customers. The utility should also endeavour to adhere to this schedule to ensure predictability of water supply.

7.2.3 Recommendations: Metering, Billing and Payments

7.2.3.1 Update and communication of NAWASCO's tariff structure

According to WASREB's repository of utility tariffs, NAWASCO's last approved tariff expired in June 2012. The utility therefore needs to revise its tariff. Among considerations for revision of the tariff is to have very well-defined penalties for activities that contribute to high non-revenue water (NRW) levels at the utility. Discussions with the NRW officer pointed to a relatively subjective approach to estimation of penalties for persons that tamper with or bypass official water distribution channels. Additionally, per the focus group discussions, it was unclear what activities attract penalties or not – for instance, should one irrigate with NAWASCO water or not? Having an objective and approved list of activities that attract penalties helps to mitigate the risk of disagreements between NAWASCO and its clients. Table 11 lists some of the penalties that may be built into the tariff structure.

Table 11: Example of penalties that may be included in the tariff structure

Penalty Description	Approved Charge (KES.)
Self-reconnection after cut-off for non-payment	5,000 and billing to be backdated from date of cut-off
Surcharge for illegal connection- Domestic	10,000 and regularize connection
Surcharge for illegal connection- Commercial/ school/ college/ hospital	40,000 and regularize connection
Surcharge for illegal connection- Construction site	100,000 and regularize connection
Surcharge for illegal connection- Industry	500,000 and regularize connection
Surcharge for tampering with meters (including removal, reversing)	5,000
Surcharge for direct suction of water from supply line using a pump	10,000
Surcharge for meter loss or damage	Cost of the meter

7.2.3.2 Restructuring of the SMS Bill Structure

Once revised, very deliberate and targeted efforts will be needed to educate NAWASCO clients on the new tariff structure. One avenue through which this may be done is restructuring the current SMS bill to include the costing breakdown and the bill due date. As seen in Table 10, the price of water received one of the lowest satisfaction ratings at 62%. The most commonly cited concern over price of water at the FGDs was uncertainty on the water bill calculations. In particular, there was a general perception among some respondents that no matter the amount of water received (whether high or low consumption), the bill remains at a flat rate putting into question the value and effectiveness of meter reading. Educating consumers on NAWASCO's graduated tariff approach and including this calculation breakdown in the bill may therefore help address the low satisfaction ratings observed for this indicator.

7.2.4 Recommendations: Connections and disconnections

From a metering perspective, and in consideration of NAWASCO facing activities with regard to effecting water disconnections for persons with arrears, the process is seen to flow seamlessly. However, a few gaps are identified from the customer facing activities that need to be addressed to improve on customer satisfaction levels.

7.2.4.1 Warning messages for disconnections

Satisfaction levels on 'Notice Period for Disconnections' received the lowest satisfaction rating under this assessment at 51%. This rating validates observations from the KIs where, in an attempt to map out customer facing processes within NAWASCO, gaps were identified in the communication process leading to disconnections. Besides SMS sent out in instances of mass disconnections, it was unclear if any warning messages are sent out to persons due for disconnection. Additionally, a review of the SMS bill sent out to consumers indicated that this does not include the payment due date. This may be addressed by a review of the SMS billing message to include the bill due date. Considering NAWASCO metering and billing process, which is continuous throughout the month, the due date should be at least 2 weeks after receipt of the bill.

7.2.4.2 Charges to disconnected customers

A major concern raised at the FGDs was that disconnected consumers continue to be charged at the minimum charge (perceived as a flat rate), regardless of their lack of consumption. It is likely that this practice was a contributor to the low satisfaction rating on the price of water. It is understood that NAWASCO is currently developing a mobile solution that will allow discontinuation of water payments once a consumer is disconnected. It is recommended that this process is hastened, and once completed, that the same is communicated to consumers to help address the already existing perceptions.

7.2.5 Recommendations: Communication and complaint handling

As highlighted in the report, only about 7% of respondents indicated ever receiving any other communication from NAWASCO other than their water bills. However, communication with clients is a key pillar of public relations and one that can be tapped into for improved relations. There are 3 low hanging fruits that NAWASCO could capitalize on to improve its communications with consumers:

7.2.5.1 Social media

Social media presents a low-cost option for quick dissemination of information to a large group of people. NAWASCO maintains a Facebook page that has about 900 followers at the time of this report. This group may be leveraged to share information on water interruptions, projects implemented by the utility, and as an avenue for reporting leaks and bursts among others. Increased activity on the page with relevant information and updates on the utility's activities will eventually position Facebook as a trusted source of news on, and feedback mechanism for NAWASCO's operations.

7.2.5.2 SMS

SMS are a key tool in NAWASCO's operations, and particularly in billing and communication of water supply interruptions. The tool could, however, be used for improved customer relations. For instance, SMS acknowledging and thanking consumers for making the payment may be incorporated as a customer relations approach. Additionally, NAWASCO



could send out mass greetings messages on key holidays (e.g. Christmas and New Year). While these may not have direct monetary benefits to the utility, such actions may contribute to better relations with consumers.

7.2.5.3 Optimization of the *Maji Voice* platform

Maji Voice is an initiative by WASREB that seeks to tap into the provisions of the mobile phone and internet connectivity to enable consumers to easily and conveniently register communication (complaints, burst and leaks, etc.) with their WSPs. NAWASCO is among the utilities that have subscribed onto the platform. As seen from the satisfaction analysis, NAWASCO's response time to customer complaints received the 3rd lowest satisfaction score at 63%. Tapping into the full potential of the *Maji Voice* application has the potential to help address this dissatisfaction rate. Among the capabilities of *Maji Voice* is the ability to assign complaints to relevant parties and track the resolution progress real time. Additionally, the platform allows for SMS alert to consumers once an issue has been resolved.

7.2.5.4 Phone numbers

NAWASCO has various phone numbers through which customers may reach the office, including a toll-free number. It is recommended that these numbers are included in the revised SMS billing message. This will ensure that all consumers have access to a number they can reach the utility on in case of need for communication with the utility (e.g. complaints and reporting leaks and bursts).

7.2.6 Recommendations: Civil society organizations

CSOs constitute a broad category of organizations that operate outside the state on a non-profit basis. They include trade unions, professional associations, non-governmental associations, cultural and sport groups and religious groups.

CSOs have a diverse number of roles in water provision which range from advocacy, service provision, capacity enhancement, representation of socially vulnerable groups, interlinking or boundary roles and oversight³. CSOs, particularly those working within the water governance space, could play a key role in building NAWASCO's capacity for consumer engagement. The lowest hanging fruits would be:

- Working with NAWASCO to apply for a service licence from WASREB. This is especially relevant so as to allow the utility to operate under the right regulatory framework as prescribed by Water Act 2016.
- Working with the utility to review and update its water tariff structure. NAWASCO's tariff structure expired in June 2012.

7.2.7 Recommendations: Operationalization of the Charter

In addition to the recommendations made above, several key steps are needed to ensure the operationalization of the proposed charter. Key among these is the upload of the various customer facing documents onto the utility's website for consumer's downloading and reference. Documents to be included include, but are not limited to:

- a. the application forms for new sewerage and water connections;
- b. the BoQ template listing the NAWASCO working prices for various materials required for new connections;
- c. the approved water tariff, including penalties for activities that contribute to non-revenue water
- d. the water distribution schedule
- e. the metering reading schedule for the various blocks

³ IRC -Wash and Water Security: Integration and the role of civil society 2017- https://www.ircwash.org/sites/default/files/wetlands_2017_wash_and_water_security_web.pdf

ANNEX 1: LIST OF KEY INFORMANTS

#	Informant	Position
1	Norah Mbogori	Customer Care Manager - NAWASCO
2	Kennedy Gitonga	Managing Director – NAWASCO
3	Wachira Gakuru	Commercial Manager - NAWASCO
4	Nancy Gakii	ICT Assistant - NAWASCO
5	Lydia Kairu	Billing Officer - NAWASCO
6	Gerald Muhuthia	Revenue Accountant – NAWASCO
7	Caroline Kihonge	Human Resources Manager - NAWASCO
8	Frank Wandia	Head of Pro-Poor Department - NAWASCO
9	Jacob Mutio	Head IT Department - NAWASCO
10	Simon Njoroge	Ag. Technical Manager – NAWASCO
11	Hosborn Odongo	NRW Officer – NAWASCO
12	Frank Mwangi	Sewerage Foreman
13	Muthuri Muthurania	Director – NAWASCO Board
14	Eng. Maina Thuko	Director – NAWASCO Board
15	Evans Kamau	Ag. Chief Officer for Water – County Government of Laikipia
16	Eng. Peter Njaggah	Director – Technical Services, WASREB
17	Herbert Kasamani	Director – Consumer Engagement and Public Affairs, WASREB
18	Eng. Ngugi	Engineer, WASREB



