



## CARCAR WATER DISTRICT

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# Carcar Water District Customer Satisfaction Survey CY 2023

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## I. Introduction

Knowing the customer's perception about the services of Carcar Water District (CWD) is an important step towards achieving customer satisfaction. Customer feedback provides the district with the knowledge on what actually takes place and how clients feel regarding the services offered. It also allows customers to express their satisfaction or dissatisfaction with the quality and quantity of the services received, making them feel recognized and valued in the process.

This survey aims to gather essential input from concessionaires to identify areas for improvement, enhance service quality, and ensure the consistent delivery of reliable and efficient services. The goal is to consistently provide safe and affordable water and the best value of services that customers deserve.

## II. Survey Methodology

According to an article entitled Methodology of Measurement of Customer Satisfaction for Business Growth by V. Viswanathan and Dr. K.M. Mohanasundaram, customer expectations are identified using various methodologies, including focus groups, surveys, and analysis of complaints.

If customer satisfaction is defined as "meeting or exceeding customer expectations" (Brown and Swartz 1984), then the first step in addressing customer satisfaction is to assess customer expectations. Multiple methodologies exist for obtaining customer input, including focus groups, surveys, and analysis of customer complaints.

The survey was conducted through phone and face-to-face interviews, utilizing the MWater Survey application as the tool for recording and tabulating the collected data. A customized questionnaire was uploaded into the application and used in the execution of the activity.

The sample size was determined using the Slovin's formula:

$$n = \frac{N}{1 + Ne^2}$$

where:

**N** = number of active accounts per CWD Water Supply System

**n** = sample size

**e** = margin of error = 5%

Also, a systematic random sampling technique was used to identify the respondents. This technique is a type of probability sampling method in which sample members from a larger population are selected according to a random starting point and a fixed, periodic interval. This interval, called the sampling interval, is calculated by dividing the population by the desired sample size.

Water Supply System	Active Connections (as of December 31, 2022)	Sample Size	Sample Size (Actual Surveyed)
Can-asujan	655	242	241
Guadalupe	528	223	234
Magsipit	744	254	245
Main	17,131	376	380
Napo	721	251	253
Takdog	368	188	193
Tapal	2,325	330	336
Venancia- Riles	1,791	316	367
Venancia-Sangi	623	238	258
Ylaya	625	238	243
	<b>25,511</b>	<b>2,656</b>	<b>2,750</b>

Table 1. CSS 2023 Sample Size

### III. Schedule of Activities

ACTIVITIES	OCTOBER				NOVEMBER					DECEMBER				
	wk1	wk2	wk3	wk4	wk1	wk2	wk3	wk4	wk5	wk1	wk2	wk3	wk4	wk5
Planning														
Recruitment of Enumerators														
Review and Approval of Customer Satisfaction Plan														
Data Collection														
Data Analysis and Report Preparation														
Report Submission														

### IV. Proposed Budget

PARTICULARS	Qty	Unit	Unit Cost	Budget
Salary	60	Man-Days	500	30,000.00
Mobile Load	5		200	1,000.00
Total Budget				31,000.00

\*5 Enumerators x 12 days

### V. Survey Questionnaire

See attached



## VI. Survey Results and Analysis

This chapter presents, analyzes and interprets the data gathered during the survey. Below are the following statistical tools used in the analysis of data.

- A. The responses for each question were scaled using a 'five-point scale' or "Likert scale system" and given weight using the interpretation below.

Legend Guide:

Range	Interpretation
4.20-5.00	Very Satisfied (VS)
3.40-4.19	Satisfied (S)
2.60-3.39	Neutral (N)
1.80-2.59	Dissatisfied (D)
1.00-1.79	Very Dissatisfied (VD)

- B. To compute the weighted mean or average of the responses, below is the formula to be used.

$$W = \frac{\sum X}{N}$$

Where, W = is the weighted mean

$\sum$  = Summation

X = weighted variable

N= total number of respondents

To capture the client's experience, expectations and satisfaction in the delivery of the services, the survey focuses on key aspects such as water pressure and supply, water quality, accuracy and delivery of water bills, and water rates.

Carcar Water District recognizes the importance of understanding community sentiments regarding its services. To achieve this, a survey was conducted across ten CWD Water Systems, with a total of 2750 respondents. The identified population of this survey were profiled based on type of Account Ownership. See table 4 for the distribution.

Table 4. Type of Account Ownership

Profile 1	Account Ownership	Frequency	Percentage (%)
A	Account Owner	1572	57.2%
B	Spouse of Account owner	314	11.4%
C	Immediate Family Member	378	13.7%
D	Tenant/Lessee	22	0.8%
E	Others	464	16.9%
Total		2,750	100%

As shown on Table 4, the district was able to get an overall rating of 4.51 with a Very Satisfactory interpretation. Takdog stood out with exceptionally high scores in all parameters, showcasing outstanding water service satisfaction with an interpretation of Very Satisfactory from 193 respondents. Guadalupe, while rated as satisfactory, showed room for improvement compared to the top-performing systems with an overall score of 3.92. The survey suggests that the majority of respondents are content with the water services provided, with Very Satisfactory ratings dominating the results.

Table 5. Overall Survey Results 2023

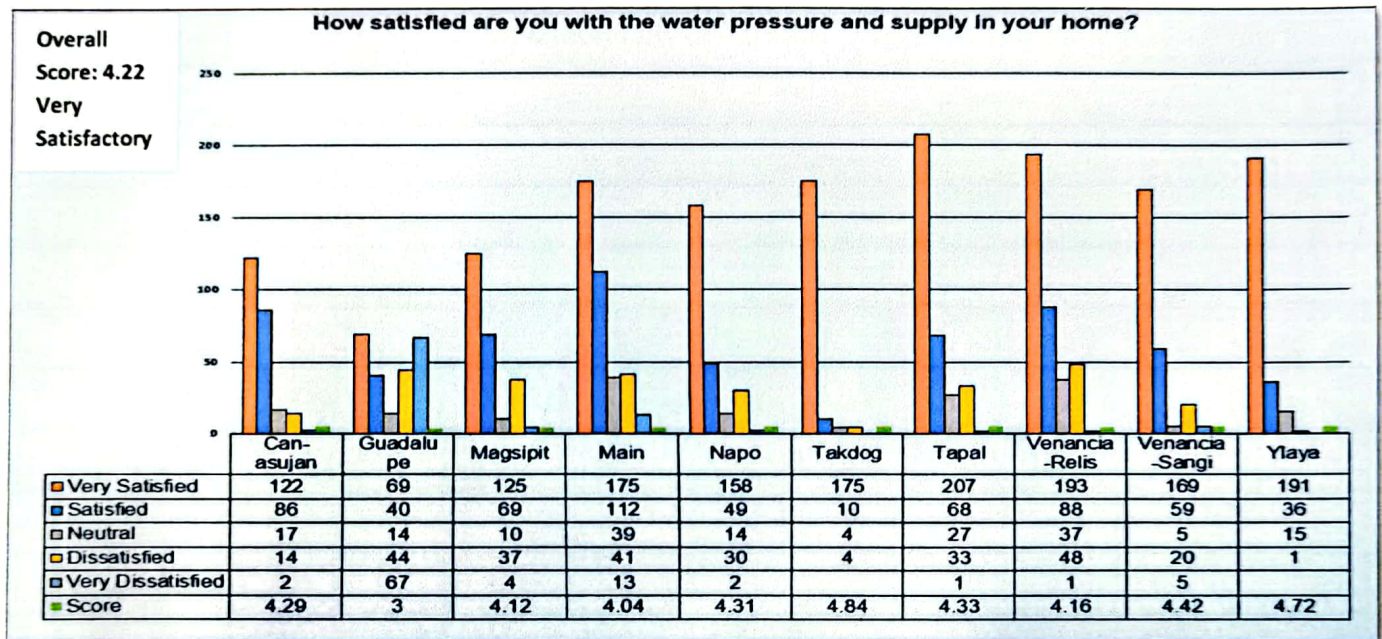
System	Number of Respondents	Water Pressure and Supply	Water Quality	Accuracy and Delivery of Water Bill	Water Rates	Overall	Interpretation
Can-asujan	241	4.29	4.45	4.49	4.41	4.41	VS
Guadalupe	234	3.00	4.26	4.32	4.08	3.92	S
Magsipit	245	4.12	4.64	4.48	4.30	4.39	VS
Main	380	4.04	4.59	4.69	4.39	4.43	VS
Napo	253	4.31	4.63	4.83	4.78	4.64	VS
Takdog	193	4.84	4.93	4.93	4.84	4.89	VS
Tapal	336	4.33	4.71	4.75	4.60	4.60	VS
Venancia-Relis	367	4.16	4.64	4.71	4.46	4.49	VS
Venancia-Sangi	258	4.42	4.66	4.64	4.52	4.56	VS
Ylaya	243	4.72	4.91	4.74	4.70	4.77	VS
TOTAL	2750	4.22	4.64	4.66	4.51	4.51	VS

Range	Interpretation
4.20-5.00	Very Satisfied (VS)
3.40-4.19	Satisfied (S)
2.60-3.39	Neutral (N)
1.80-2.59	Dissatisfied (D)
1.00-1.79	Very Dissatisfied (VD)

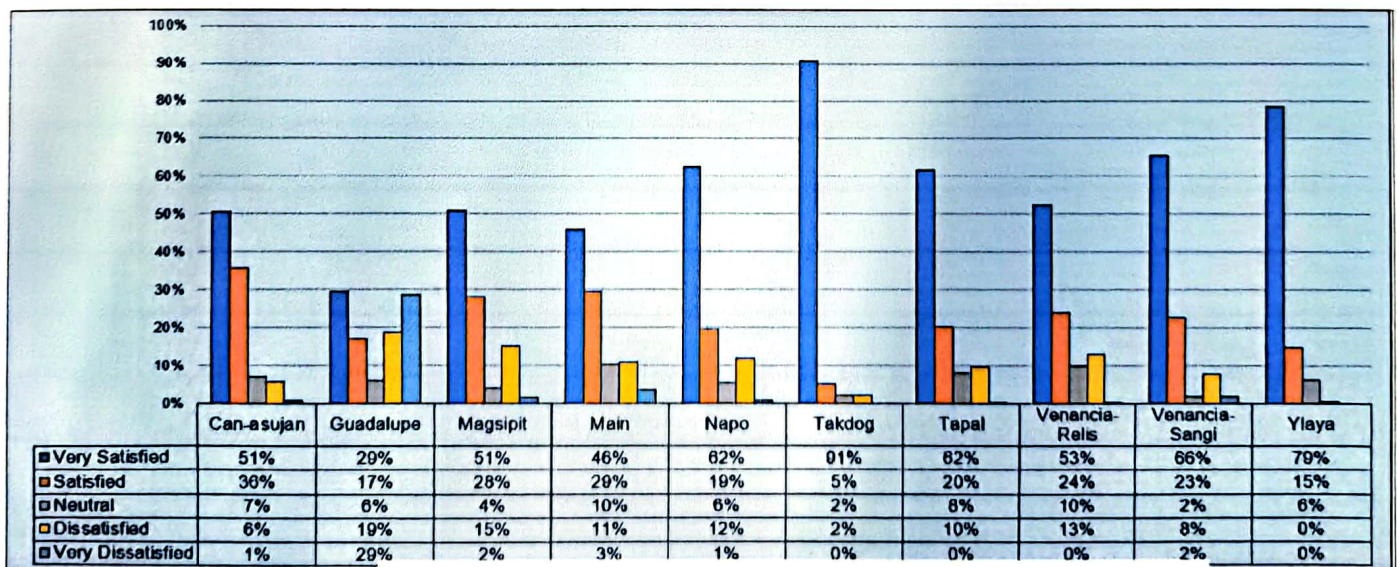


Graph 1 below presents a varying satisfaction level of the concessionaires concerning the Water Pressure and Supply across the 10 water systems. Consumers from the Takdog Water System emerged as the most satisfied earning a score of 4.84 and an interpretation of "Very Satisfactory". Apparently, the top 5 systems with the highest number of respondents who gave a "very satisfied" rating were Tapal, Venancia-Relis, Ylaya, Venancia-Sangi, Main & Takdog. Notably, some of the systems mentioned were also among those with the highest number of respondents in this year's survey. While some respondents display a high level of satisfaction in the areas of water pressure and supply, others expressed dissatisfaction. On the contrary, Guadalupe faced challenges, obtaining a score of 3 with an interpretation of "Neutral," suggesting the need for attention, highlighting the necessity for improvement in water pressure and supply. Despite receiving a low rating, the overall score for Water Pressure and Supply remains at a very satisfactory interpretation with a 4.22 score.

Graph 2 illustrates the satisfaction levels of respondents across various water systems through a percentage summary. Notably, Takdog, Ylaya, and Venancia-Sangi emerged as the top three systems with the highest percentage of respondents who rated their level of satisfaction as "very satisfied." Conversely, Guadalupe and the Main system stood out as the two systems with the lowest satisfaction percentages, recording 29% and 46%, respectively. Significantly, dissatisfaction levels from these two systems are visually represented on the graph, accounting for a total of 48% and 17% of the overall respondents.



**Graph 1.**  
Water Pressure and Supply per Water System



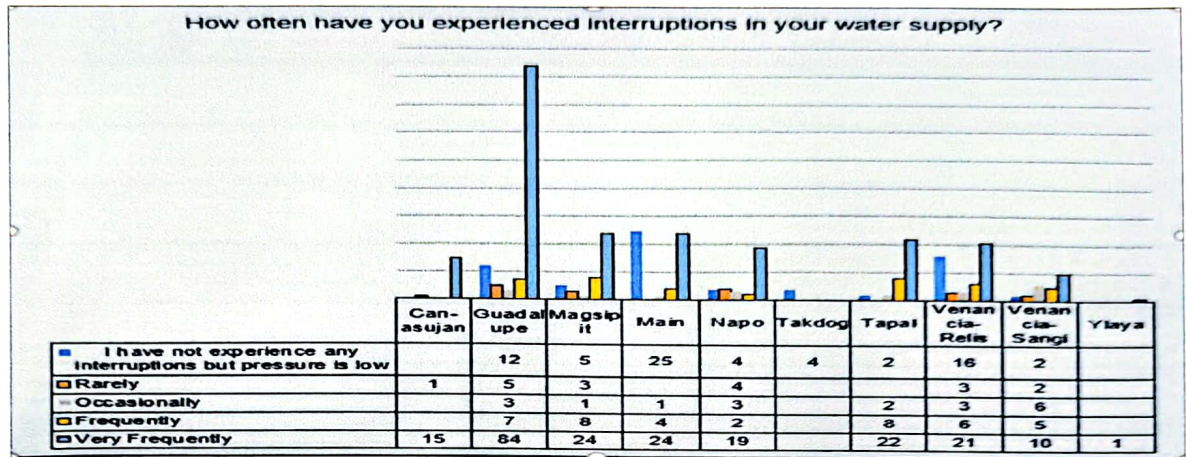
**Graph 2.**  
Water Pressure and Supply in Percentage



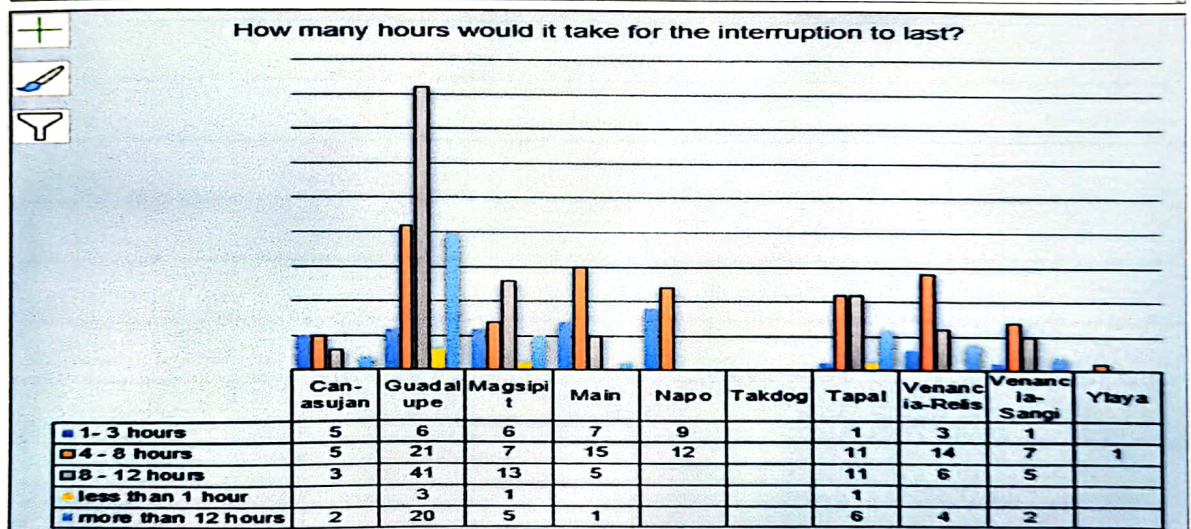
Respondents who conveyed dissatisfaction with water pressure and supply were queried about the frequency of water interruptions, the duration of these interruptions, and the typical time of day when they occurred. The graphs below display their responses, explaining the reasons behind their dissatisfaction.

In Graph 3, the interruptions' frequency is depicted, with Guadalupe having the highest number of respondents experiencing service interruptions, totaling 111. Among them, 84 respondents noted that the interruptions occurred daily. Within this group, 21 respondents reported interruptions lasting for 4-8 hours, 41 mentioned durations of 8-12 hours, while 20 respondents stated that the interruptions lasted for more than 12 hours. Additionally, the interruptions were reported to typically occur in the morning.

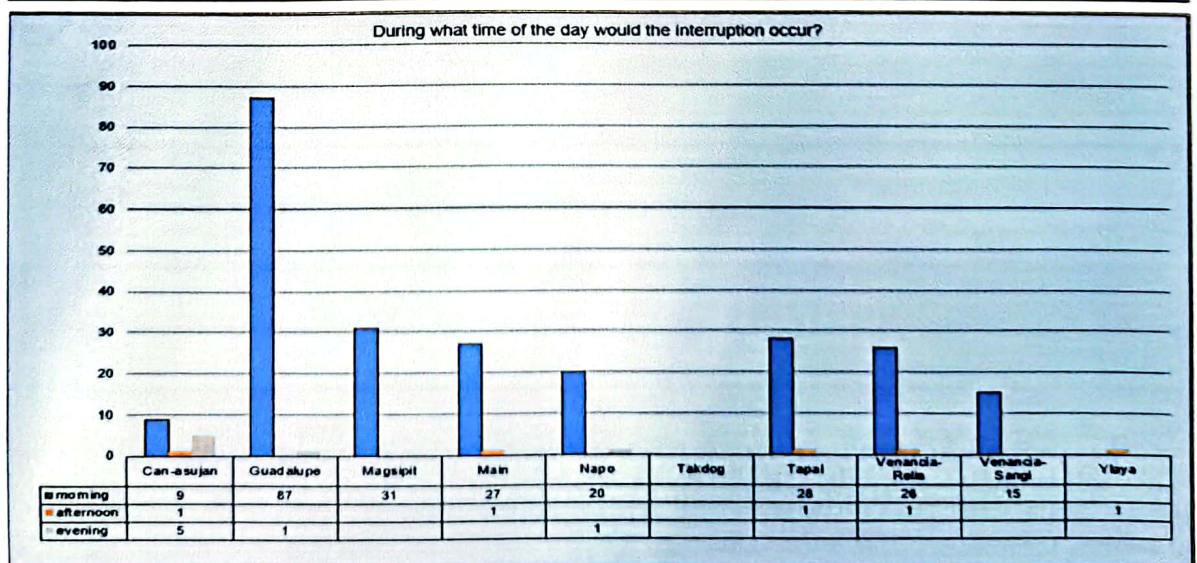
Graph 3-  
Frequency



Graph 4-  
Duration



Graph 5 - Time  
of Day



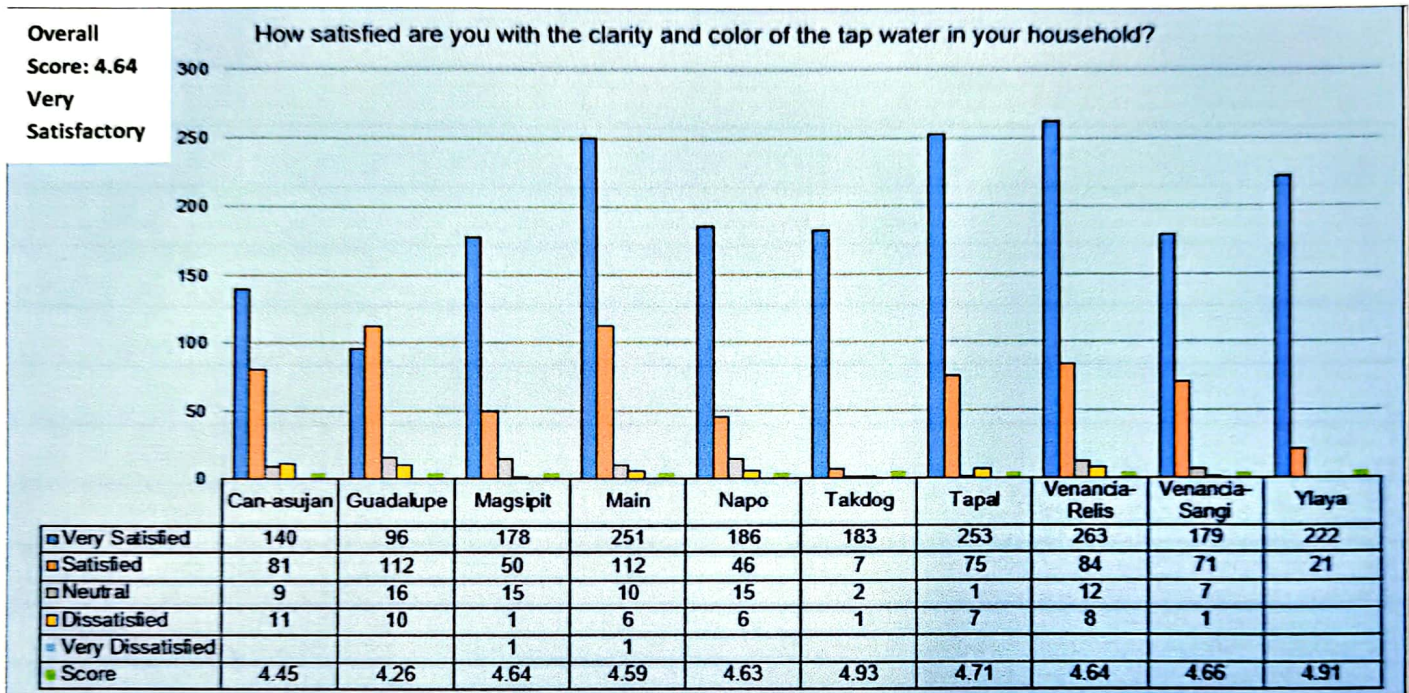
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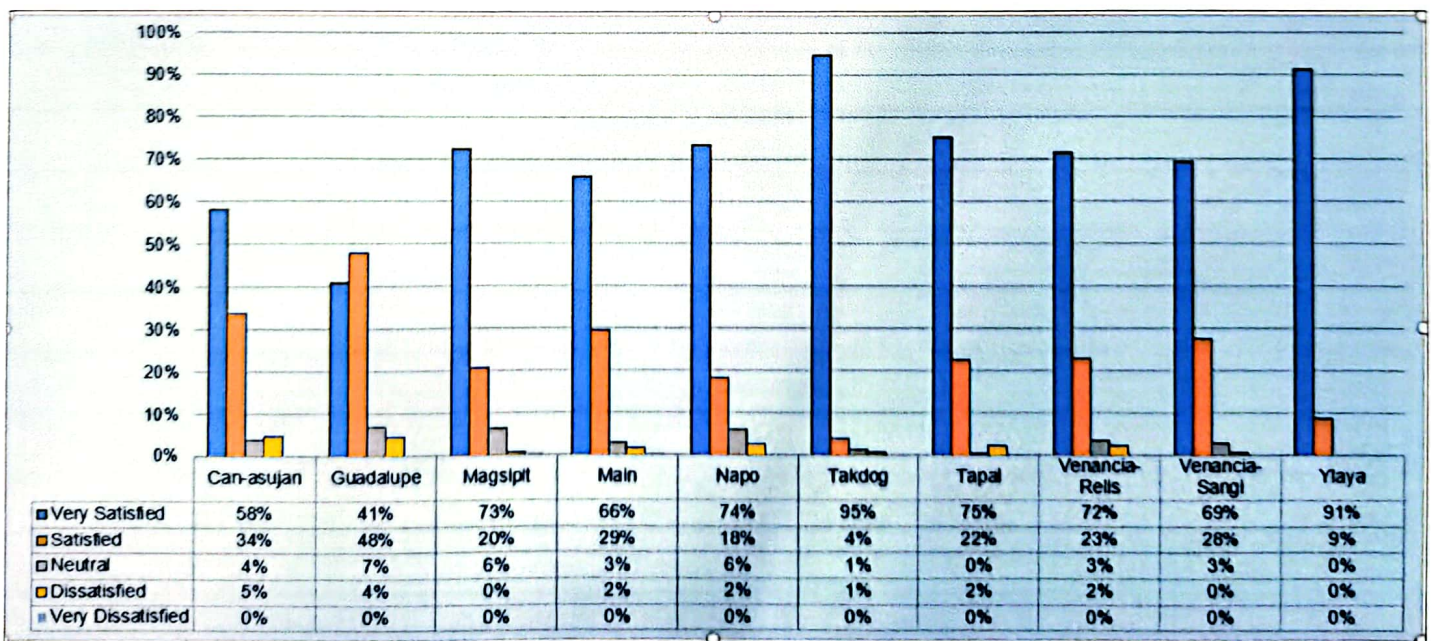
Another facet of this survey focuses on Water Quality. Graph 6 below illustrates the outcomes of the survey regarding the clarity and color of tap water in the concessionaires' households. As depicted on the graph, the highest-rated systems were Takdog, Ylaya, and Tapal, with ratings of 4.93, 4.91, and 4.71, respectively, all interpreted as very satisfactory. Guadalupe received the lowest rating with a score of 4.26, still falling within the very satisfactory interpretation. Out of the 2,750 respondents, 53 expressed dissatisfactions, accounting for 2% of the total population. The satisfaction level on this aspect remains very high, with an overall score of 4.64.

Graph 7 presents the summary results in percentage terms. Takdog achieved the highest percentage of respondents expressing strong satisfaction, with 95% of its total respondents. On the other hand, Guadalupe obtained the lowest percentage, with only 41% of its total respondents being very satisfied with the clarity and color of tap water in their households.

Graph 6 – Clarity & Color of Water

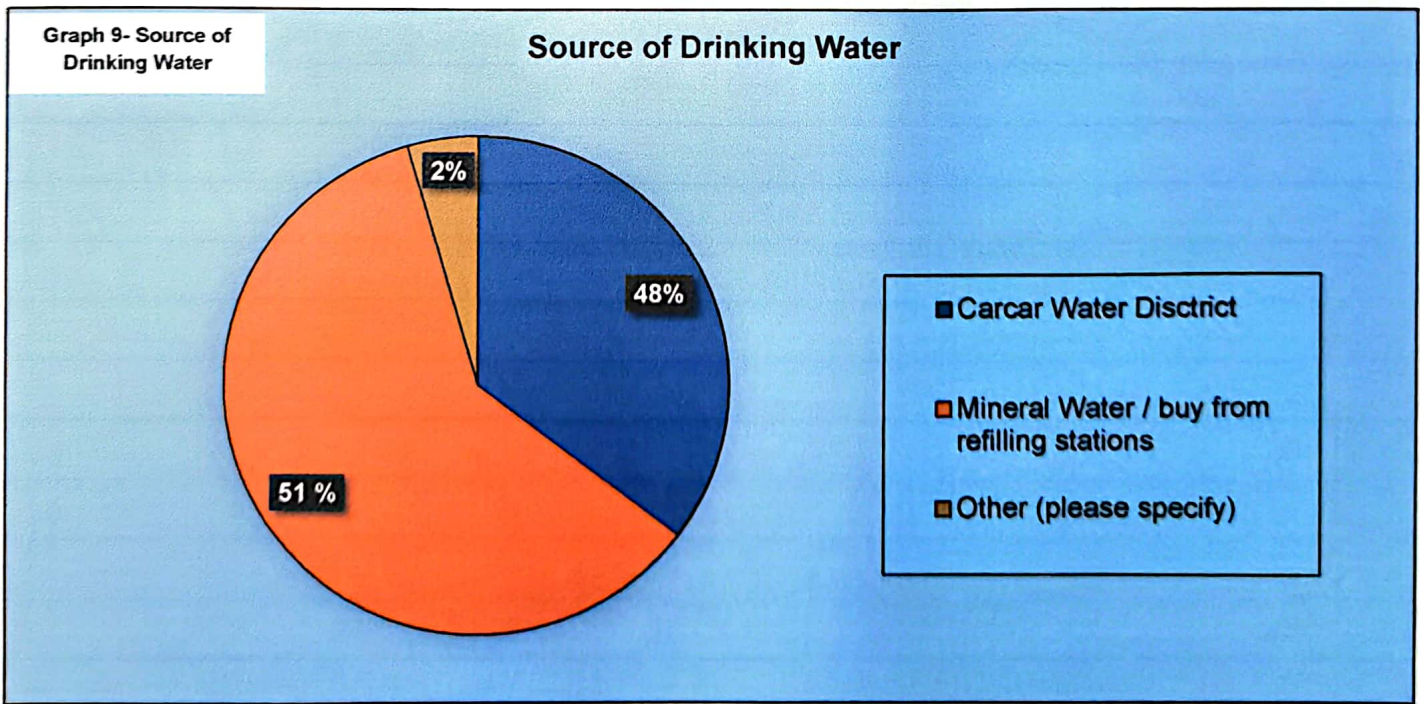
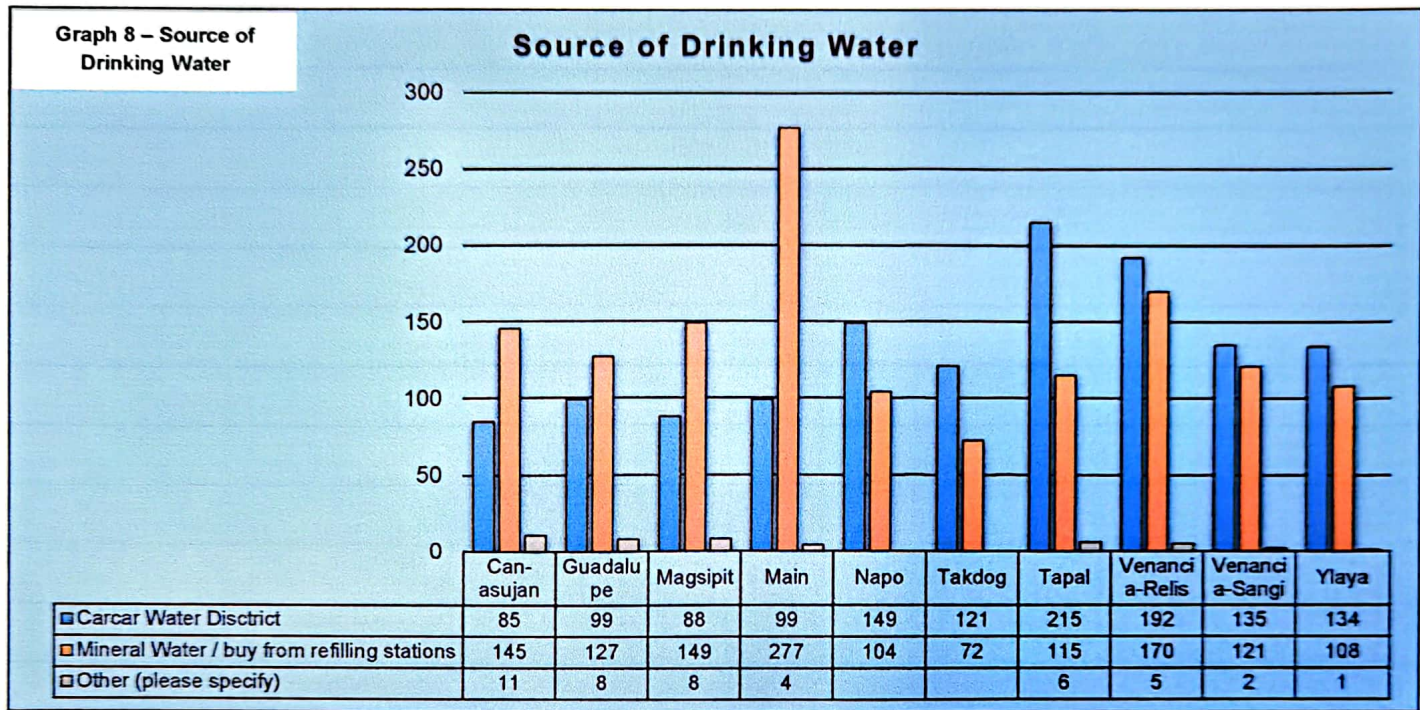


Graph 7 – Clarity & Color of Water in Percentage





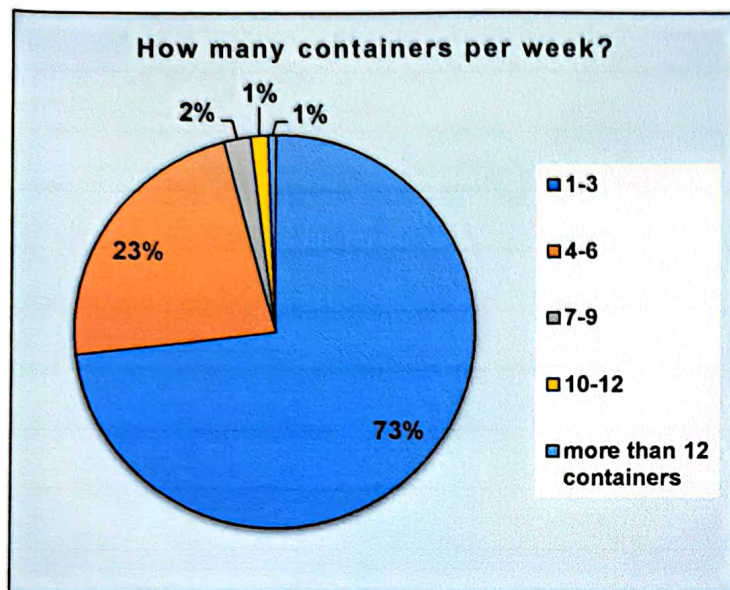
Graph 8 depicts the outcomes of the survey concerning respondents' primary source of drinking water. The data reveals that a large proportion of respondents, constituting 215 out of 336 or 64% of the total, indicated that they consume water directly from the tap, with Tapal leading in this category. Following closely, Venancia-Relis had 192 out of 367 respondents, accounting for 52% of the total. While some individuals use tap water, others opt mineral water or drinking water from refilling stations. The graph highlights that the highest number of respondents favoring mineral water are associated with the Main System, with 277 out of 380 respondents, making up 73% of the total. As depicted in Graph 9, 51% of the entire respondent pool, equivalent to 1,388 out of 2,750 individuals, opts for mineral water, whereas the remaining 48%, comprising 1,317 out of 2,750 respondents, chooses to consume water directly from the tap.



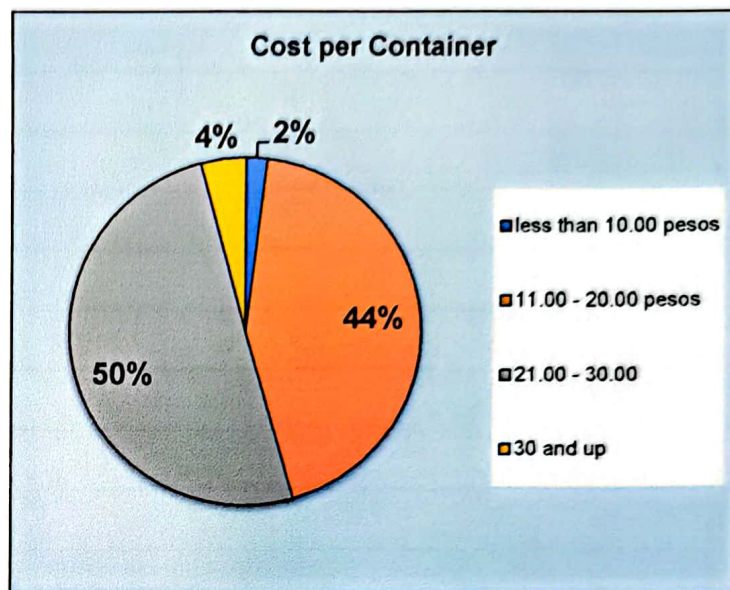


Among respondents who prefer mineral water, 73% or 1,014 specified that they typically consume 1-3 jerrycan containers per week. Following closely, 23% or 315 consume 4-6 containers, with an average cost ranging from 11.00 to 30.00 pesos per container.

Graph 10- Containers per Week



Graph 11- Cost per Container



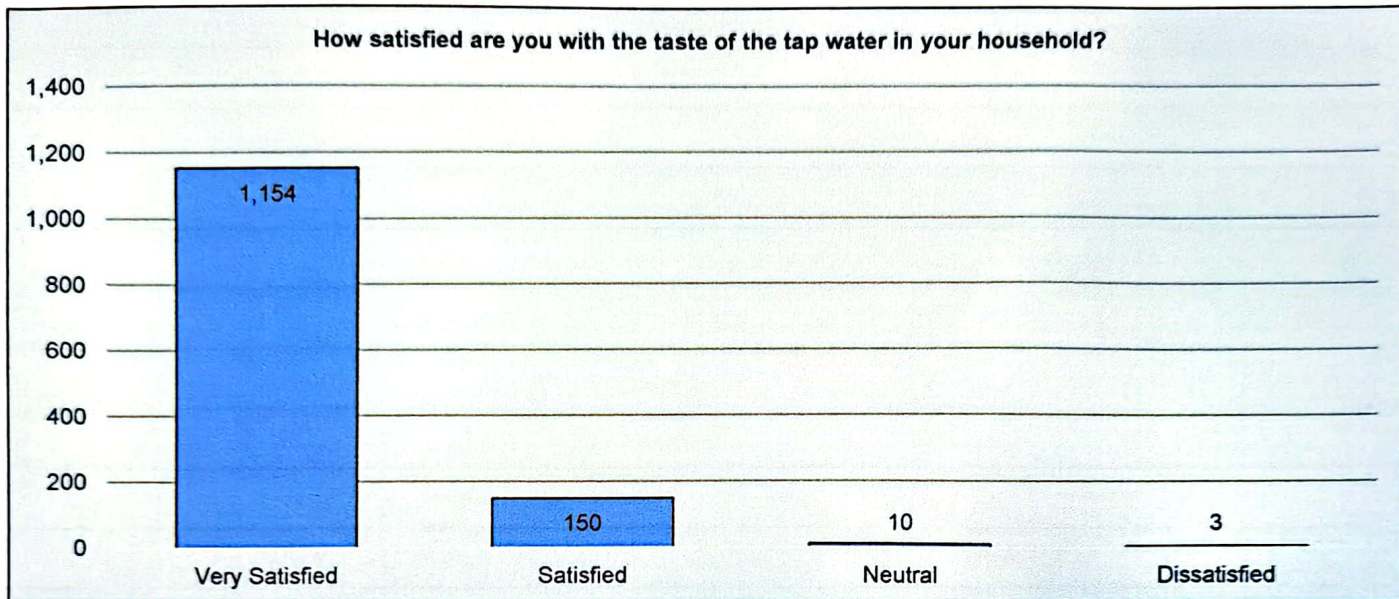
After having known that 51% of the population prefer mineral water, they were then queried as to what could be the reason why they don't drink directly from the tap. Shown in the table below are some of the reasons provided:

Frequency	Reasons
567	"Naanad sa mineral water".
135	For safety purposes
56	"Manimahong Chlorine".
11	"Nakasuway nga nisakit ang tiyan."



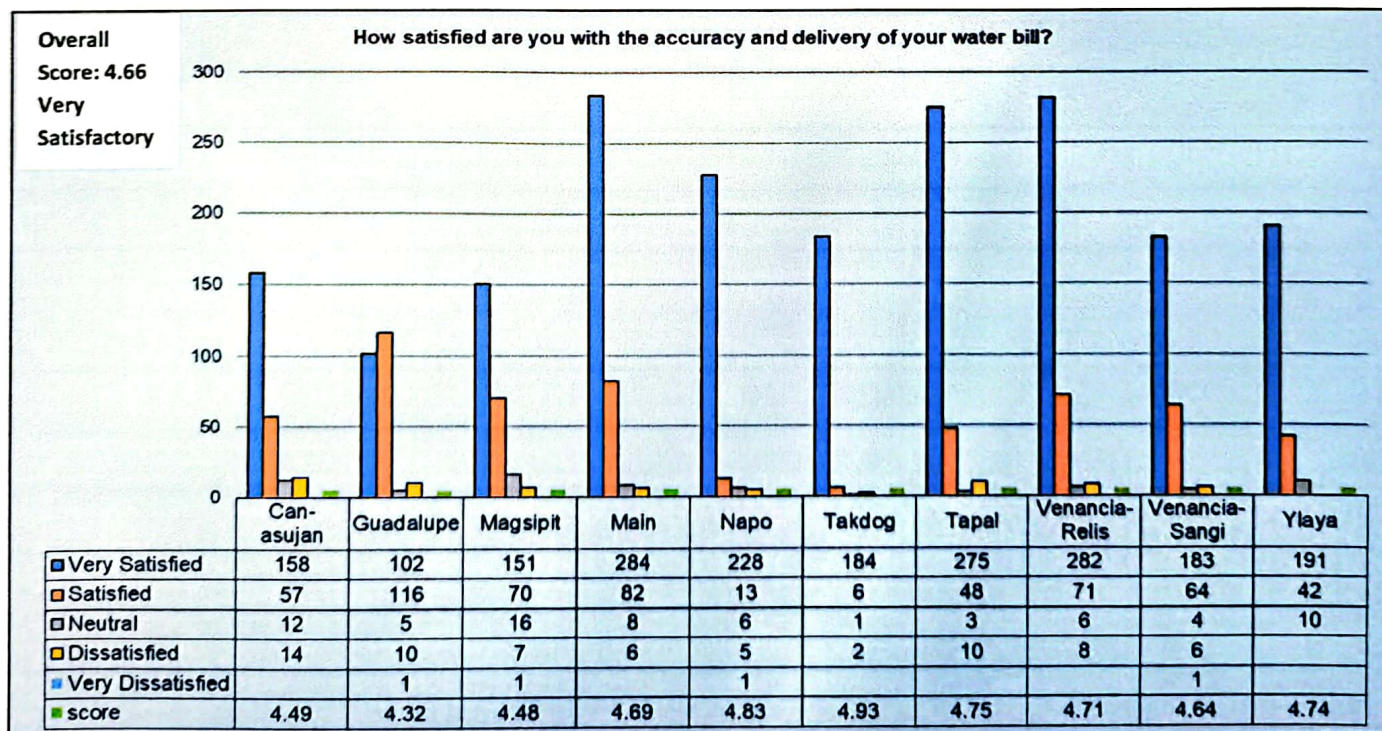
Among those who consume tap water, they were inquired about their satisfaction with its taste. As illustrated in Graph 12, of the 1,317 participants who partake in tap water consumption, 1,304 individuals, constituting 99%, conveyed their contentment and approval of the water's taste.

Graph 12- Taste of the tap water



Another notable aspect of this survey focuses on the accuracy and promptness of water bill delivery. As illustrated in Graph 13, the highest ranked were the respondents from the Takdog System, achieving a score of 4.93. This is closely followed by Napo, Tapal, Ylaya, and Venancia-Sangi, all receiving a "very satisfactory" rating. Despite the Guadalupe System receiving the lowest score of 4.32, it still falls within the "very satisfactory" category, as reflected in the graph. With the majority of respondents expressing satisfaction in this aspect of service, the overall score is 4.66, interpreted as "very satisfactory."

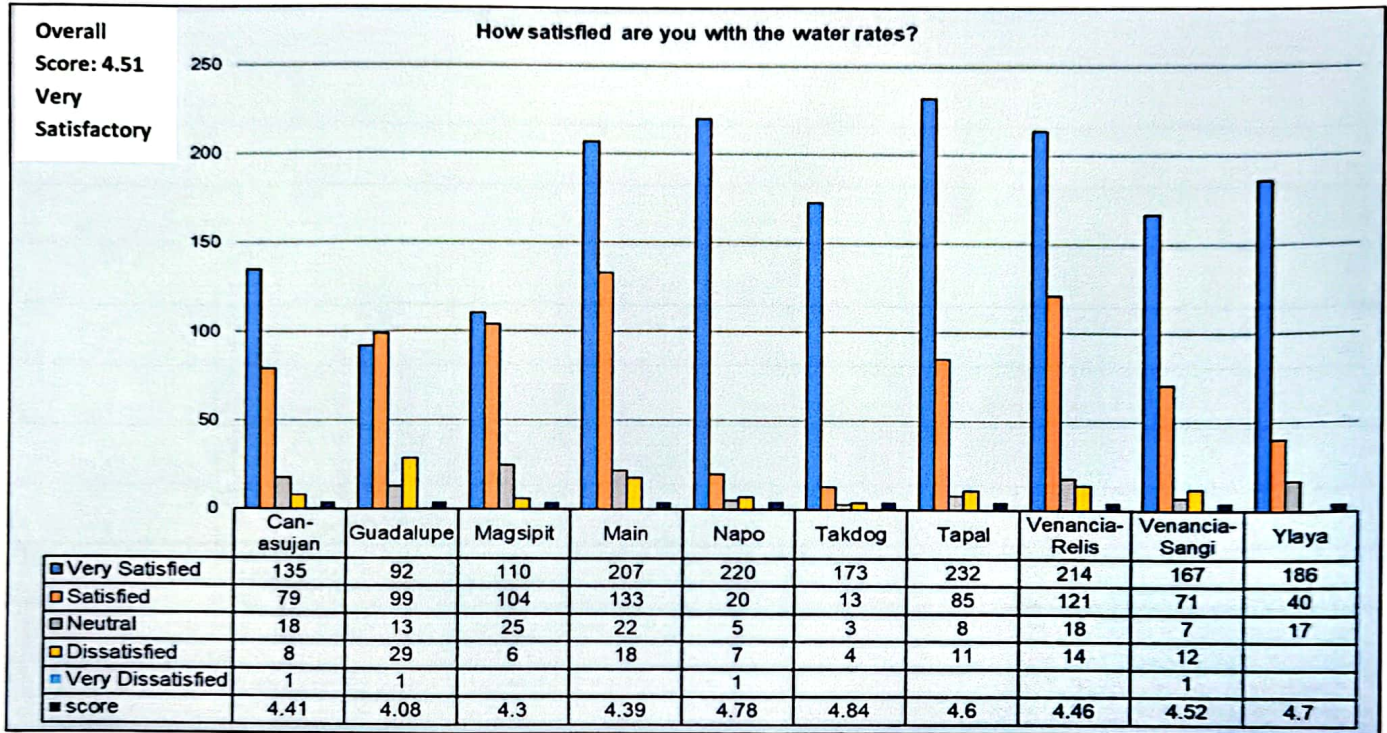
Graph 13- Accuracy and delivery of water bill





The final aspect of this survey under consideration is the level of satisfaction pertaining to water rates and fees. Respondents were queried about their sentiments regarding the current water rates, fees, and charges imposed by the district. The Napo system emerged with the highest number of satisfied clients, earning an overall score of 4.78. This signifies that 87% of the total respondents believed that the rates and charges are reasonable and fair. Contrarily, Guadalupe garnered the lowest score at 4.08, with a "satisfied" interpretation. Within this system, 30 individuals, constituting 13% of the total respondents, expressed dissatisfaction, believing the water rates to be somewhat expensive. Despite this, the overall score remained at a "very satisfactory" level, reaching 4.51, as depicted in Graph 14.

Graph 14- Water Rates



## VII. Conclusions and Recommendations

The comprehensive survey conducted the on various aspects of water services, particularly in the areas of water pressure and supply, water quality, accuracy and delivery of water bills, and water rates, has yielded valuable insights on customer satisfaction across different locations from the 10 water systems. Overall, majority of the respondents expressed very high satisfaction levels, affirming the quality and reliability of the water services provided.

The district needs to address issues related to water pressure, supply, and water quality to elevate overall customer satisfaction from consumers in the Guadalupe System and implement measures to enhance accuracy and timeliness in water bill delivery, through innovation and technologically advanced solutions.

Systems like Takdog and Napo serve as models for the consistency in water pressure, supply and quality. CWD may identify best practices across all other systems and implement these practices to ensure a uniformed delivery of service excellence. It could also take into consideration the exploration of technological solutions for real-time monitoring of water pressure and supply, facilitating proactive issue identification and resolution.

In conclusion, the survey results offer valuable insights into the strengths and areas for improvement within each water system. By implementing the recommended measures, the district can enhance overall customer satisfaction, address specific concerns, and contribute to the sustained delivery of high-quality water services across all systems.



VIII. Annex I. COMMENTS/RECOMMENDATIONS/SUGGESTIONS

Aspects	Comments	Frequency
<b>Water Quality</b>	Baho og chlorine	<b>53</b>
	Lubog kaayo labi na sa ting uwan dili na mainom ang tubig	
	Usahay mo lubog ang tubig	
	Usahay naay color brown, murag taya yellow or puti samot na mg uwan.	
	Chlorinated	
	Puti ang agas	
<b>Water Pressure and Supply</b>	Inform unta daan if walay agas para makapangandam.	<b>367</b>
	Hinaot maagasan na mi kada buntag.	
	Mapalong ang agas sa buntag mobalik ari na sa hapon.	
	Hinay kaayo ang pressure kada buntag.	
<b>Accuracy and Delivery of Water Bill</b>	Dili mahatud usahay ang bill.	<b>71</b>
	Dili makadawat sa bill kay adto sa silingan ibilin.	
<b>Water Rates</b>	Mahal ang rate sa tubig	<b>113</b>
	Maayo unta ma minus minusan	

## IX. Annex II. SURVEY QUESTIONNAIRE

### 2023 CWD Customer Satisfaction Survey

#### Identifying Information

##### System

- ☐ Can-asujan  
☐ Guadalupe  
☐ Magsipit  
☐ Main  
☐ Napo  
☐ Takdog  
☐ Tapal  
☐ Venancia-Relis  
☐ Venancia-Sangi  
☐ Ylaja  
☐ Other (please specify)

##### Municipality/City

- ☐ Carcar  
☐ Sibonga  
☐ Aloguinsan

If Municipality/City is Carcar

##### Barangay - Carcar

- ☐ Poblacion I  
☐ Poblacion II  
☐ Poblacion III  
☐ Valladolid  
☐ Tuyom  
☐ Liburon  
☐ Perrelos  
☐ Can-asujan  
☐ Guadalupe  
☐ Valencia  
☐ Buenavista  
☐ Calidngan  
☐ Bolinawan  
☐ Ocaña  
☐ Napo

If Municipality/City is Sibonga

##### Barangay - Sibonga

- ☐ Candaguit  
☐ Abugon

If Municipality/City is Aloguinsan

##### Barangay - Aloguinsan

- ☐ Zaragosa

Site and Purok

Account Number

#### Relationship of Respondent with Registered Account Owner

- ☐ Self - Respondent is the Registered Owner  
☐ Spouse - Wife/Husband of the Registered Owner  
☐ Immediate Family Member - Child, Sibling, Parent of the Registered Owner  
☐ Tenant/Lessee - Renter or Nagatbang  
☐ Other (please specify)

#### How many members are in the household with ages:

- ☐ 17 yrs old & below

- ☐ 18 yrs old - 59 yrs old

- ☐ 60 yrs old and above

#### Water - Adequacy

How satisfied are you with the water pressure and supply in your home?

Hint: (Unsa ka kontento sa gikugon ug sa suplay sa tubig sa imong balay?)

- ☐ Very Satisfied  
☐ Satisfied  
☐ Neutral  
☐ Dissatisfied  
☐ Very Dissatisfied

If how satisfied are you with the water pressure and supply in your home? is any of Dissatisfied, Very Dissatisfied

#### How often have you experienced interruptions in your water supply?

- ☐ I have not experience any interruptions but pressure is low - Naa ray agaa pima pero hinay lang  
☐ Rarely - Once a month or Once in a quarter  
☐ Occasionally - Monthly (3 or 4x a month)  
☐ Frequently - More than 3 times a week  
☐ Very Frequently - Everyday

If How often have you experienced interruptions in your water supply? is any of Frequently, Very Frequently

#### How many hours would it take for the interruption to last?

- ☐ less than 1 hour  
☐ 1- 3 hours  
☐ 4 - 8 hours  
☐ 8 - 12 hours  
☐ more than 12 hours

If How many hours would it take for the interruption to last? is one of 1- 3 hours, 4 - 8 hours, 8 - 12 hours, more than 12 hours:

#### During what time of the day would the interruption occur?

- ☐ morning

- ☐ afternoon

- ☐ evening

#### Water - Quality

How satisfied are you with the clarity and color of the tap water in your household?

Hint: (Unsa ka kontento sa color sa imong tubig gikan sa CWD?)

- ☐ Very Satisfied  
☐ Satisfied  
☐ Neutral  
☐ Dissatisfied

- ☐ Very Dissatisfied

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**Source of drinking water?**

- ☐ Carcar Water District  
☐ Mineral Water / buy from refilling stations  
☐ Other (please specify)

*If Source of drinking water? is Carcar Water District*

**How satisfied are you with the taste of the tap water in your household?**

*Hint: (Unsa ka kontento sa lami sa imong tubig gikan sa CWD?)*

- ☐ Very Satisfied  
☐ Satisfied  
☐ Neutral  
☐ Dissatisfied

- ☐ Very Dissatisfied

*If Source of drinking water? is Mineral Water / buy from refilling stations*

**How many containers do you buy per week?**

- ☐ 1 - 3  
☐ 4 - 6  
☐ 7 - 9  
☐ 10 - 12  
☐ more than 12 containers

*If Source of drinking water? is Mineral Water / buy from refilling stations*

**How much is the cost per container?**

- ☐ less than 10.00 pesos  
☐ 11.00 - 20.00 pesos  
☐ 21.00 - 30.00  
☐ 30 and up

*If Source of drinking water? is one of Mineral Water / buy from refilling stations. Other (please specify)*

**Why not drink directly from the tap?**

*If Source of drinking water? is Carcar Water District and Source of drinking water? is Other (please specify)*

**Do you treat your drinking water?**

- ☐ Yes  
☐ No

*If Do you treat your drinking water? is Yes*

**How are you currently treating your DRINKING water?**

- ☐ We boil it  
☐ We let the suspended dirt settle before drinking it  
☐ We treat it with a (sand, ceramic) water filter instead  
☐ We treat it with a strain (cloth)  
☐ We treat it with chlorine e.g. Water Guard  
☐ Other (please specify)

**Billing**

**How satisfied are you with the accuracy and delivery of your water bill?**

*Hint: (Unsa ka kontento sa katukma ug paghatud sa imong water bill?)*

- ☐ Very Satisfied  
☐ Satisfied  
☐ Neutral  
☐ Dissatisfied

- ☐ Very Dissatisfied

**How satisfied are you with the water rates?**

*Hint: Unsa ka kontento sa presyo sa tubig?*

- ☐ Very Satisfied  
☐ Satisfied  
☐ Neutral  
☐ Dissatisfied

- ☐ Very Dissatisfied

**Comments/Suggestions/Recommendations**

**Comments**