

# Water Citizen Survey

## Introduction

This document presents results from a survey conducted with 543 residents of the city. The purpose of the survey was to a) understand resident's views and practices on water conservation, pricing and recycled water and b) validate our secondary research.

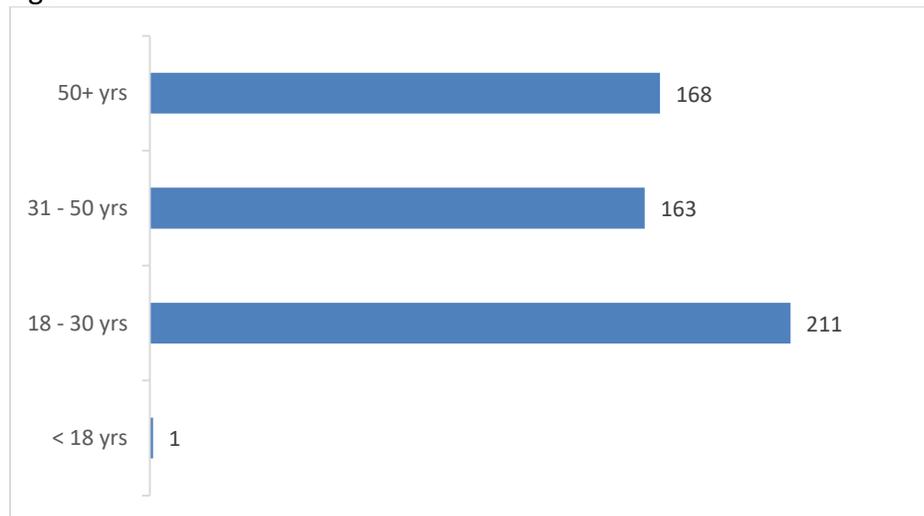
## Key results

- Majority of respondents (~85%) have a post-graduate education suggesting that results might be skewed towards middle class and higher
- Respondents have multiple water sources and most common are bore wells, water from Metro Water and packaged water (bubble top cans).
- More than half the respondents (~51%) are willing to pay a higher price for 24\*7 and ~71% support government policy on water metering and consumption based tariff.
- Based on a self-assessment, ~48% respondents stated that they conserve water while ~37% stated they 'somewhat conserve'.
- Around 29% of respondents conserve water through regular maintenance of leaks and rain water harvesting systems respectively.
- Only ~25% of respondents use recycled water, mostly for flushing, gardening and car washing.
- However, ~59% are willing to consider using recycled water in future. This decision depends primarily on two factors – 'feeling good for conserving' and 'operation and maintenance'. Interestingly, only ~11% chose 'yuck factor' contradicting what several government officials believe is the primary detriment.

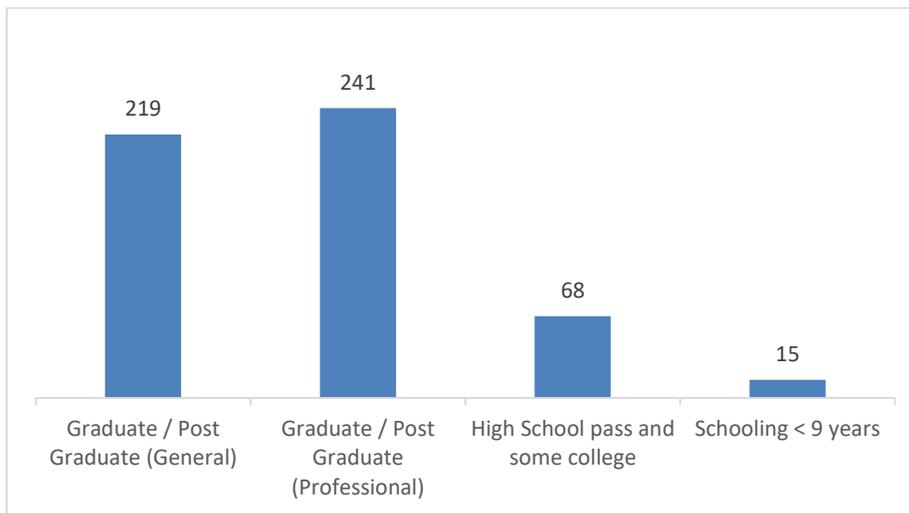
## Results

### A. Socio-economic background of respondents

#### Age



### Educational Background:



### Representation of zones:

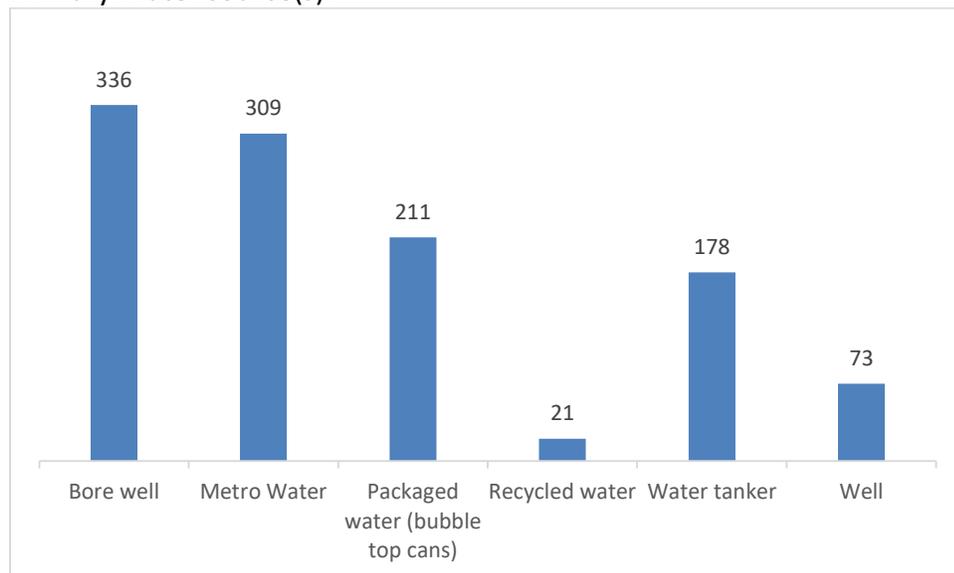
Zones	Count of Zone	Percentage
Tiruvottiyur (I)	33	6.08%
Manali (II)	3	0.55%
Madhavaram (III)	3	0.55%
Thiru-Vi-Ka Nagar (VI)	5	0.92%
Royapuram (V)	28	5.16%
Tondiarpet (IV)	9	1.66%
Ambattur (VII)	15	2.76%
Anna Nagar (VIII)	109	20.07%
Teynampet (IX)	60	11.05%
Kodambakkam (X)	69	12.71%
Valasaravakkam (XI)	29	5.34%
Alandur (XII)	25	4.60%
Adyar (XIII)	68	12.52%
Perungudi (XIV)	70	12.89%
Shollinganallur (XV)	17	3.13%
<b>Grand Total</b>	<b>543</b>	

### Representation of informal settlements:

Row Labels	Count of Informal Settler
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Informal Settlers	88
<b>Total</b>	<b>88</b>

#### Primary Water source(s):

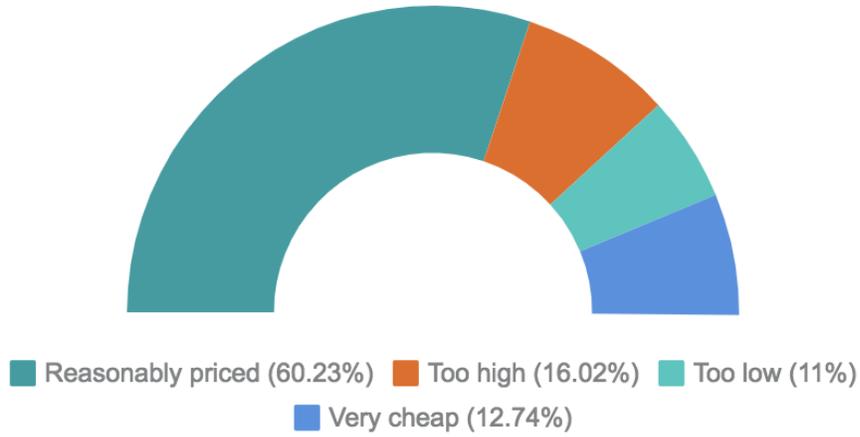


#### Summary

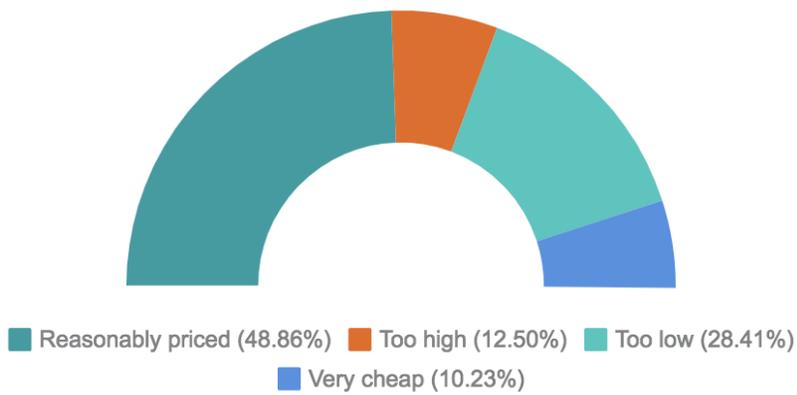
- The educational background of respondents reveals a bias towards the middle class with high levels of qualification. Around 85% of respondents have a post graduate degree – either general or professional. This could be a result of the manner in which the survey was conducted – through an online platform, shared through WhatsApp.
- Approximately 69% of respondents were from the zones, Anna Nagar, Adyar, Kodambakkam, Teynampet and Perungudi predominantly in the core area of the city, except Perungudi. Other zones are under-represented.
- The survey also includes a representation of low income communities living in informal settlements across different zones, thereby attempting to cover a range of people with varied socio-economic backgrounds.

#### *B. Water pricing and metering*

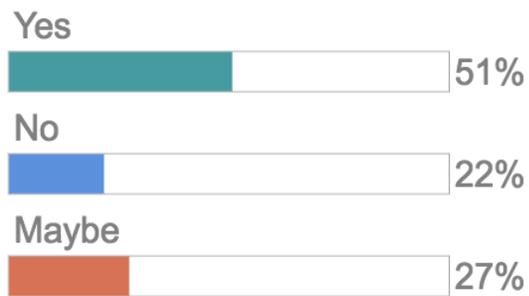
Current opinion on water charges



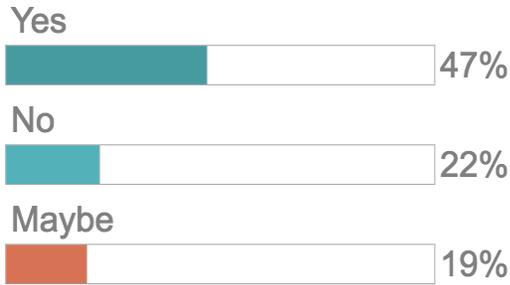
Current opinion on water charges only among informal settlements



Willingness to pay for 24\*7 water



Willingness to pay for 24\*7 only among informal settlements



Supporting government policy on water metering

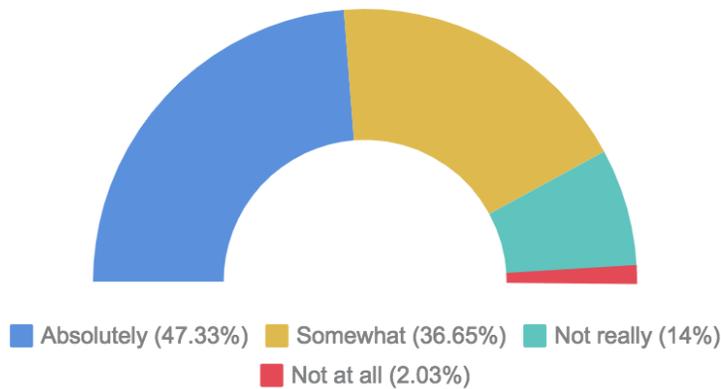
Support govt. policy on water meters and consumption based payments	Count	Percentage
Yes	391	72.01%
No	71	13.08%
Maybe	81	14.92%
<b>Total</b>	<b>543</b>	

Summary:

- By and large, respondents believe that water charges in the city are reasonable (~60% and ~49% in informal settlements).
- However, ~51% of respondents are willing to pay a higher price for 24\*7 and ~71% support government policy on water metering and consumption based tariff.

*C. Water conservation and rain water harvesting*

Self-assessment of water conservation



### Methods used to conserve water

How do people conserve water	Count
Dual flush	157
Regular maintenance	325
Water efficient shower heads	187
RWH	325
Recycling	13
Other	23
Not Applicable	82

### Type of RWH system used

Type of RWH system	Grand Total
Connected to open well	2
Don't know	138
Dug wells	35
Hand pumps	17
Lateral shaft with bore wells	19
Recharge shafts	38
Recharge wells	104
Spreading techniques	25
Trenches	36
Other	2
Not applicable	127
<b>Total</b>	<b>543</b>

### Reasons for not practicing RWH

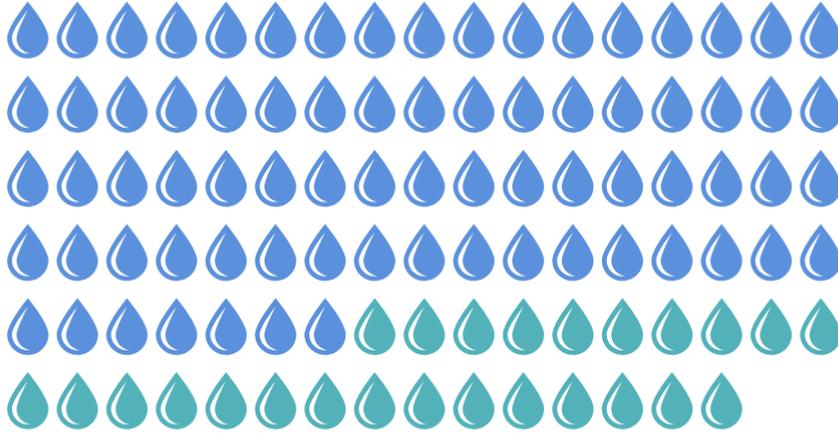
Reasons for not practicing RWH	count
Finding the right people to install it	83
Maintenance	76
Price	22
other	1
Not aware	51
Not applicable	348
No space	3
<b>Total</b>	<b>543</b>

### Summary

- Based on a self-assessment, ~48% respondents stated that they conserve water while ~37% stated they 'somewhat conserve'.
- Around 29% of respondents conserve water through regular maintenance of leaks and rain water harvesting systems respectively.

### D. Water Recycling

Self- assessment: Do you use recycled water ?



■ No (74.59%) ■ Yes (25.41%)

Do you recycle water? (by dwelling type)

Currently use recycled water at home for domestic purpose?	Yes	No	Total
Flat	75	216	291
Independent house	55	170	225
Others	8	19	27
<b>Total</b>	<b>138</b>	<b>405</b>	<b>543</b>

Purposes for which recycled water is used

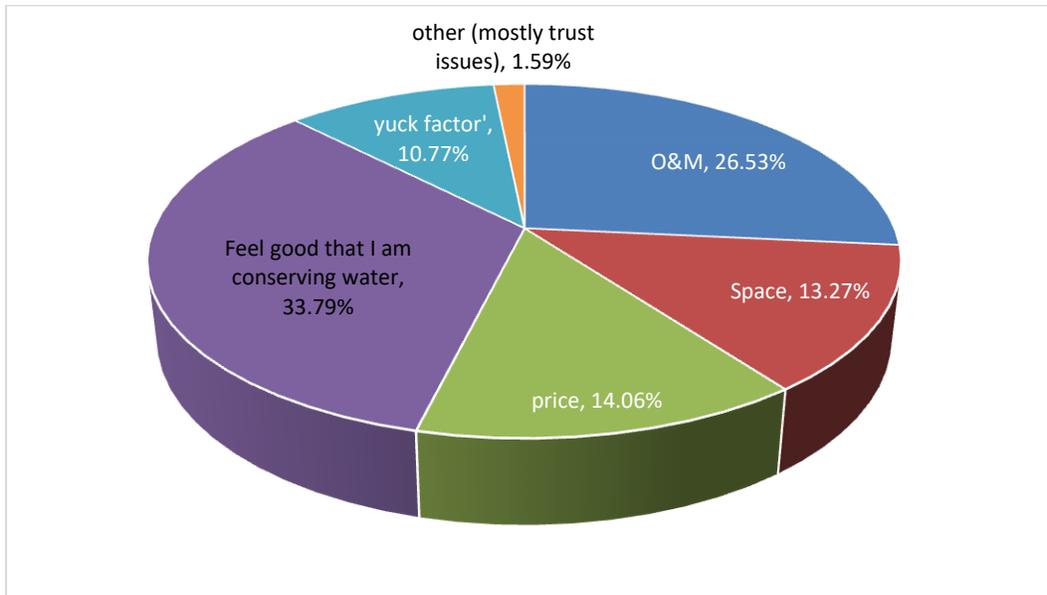
if yes, for what?	Count
Toilet/ Flushing	143
Gardening	140
Car Washing	72
Cleaning and washing	6
Not Applicable	311
Other	2
<b>Total responses</b>	<b>679</b>

Would you consider using recycled water in future?

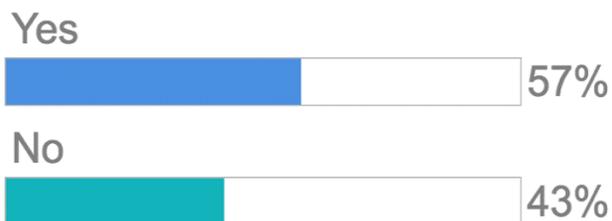
If NO, would you consider using waste water that is recycled by the government for domestic purposes in future?	Count	Percentages
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Maybe	159	29.28%
No	61	11.23%
Yes	323	59.48%
<b>Total</b>	<b>543</b>	

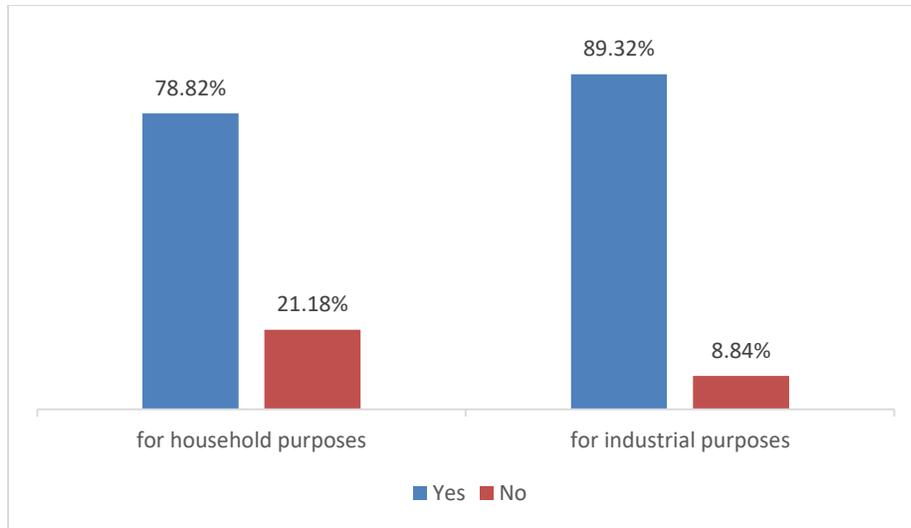
Factors that influence decision to recycle/not recycle water



Willingness to pay for recycled water



Support for government policy on recycling



### Summary

- Only ~25% of respondents use recycled water, mostly for flushing, gardening and car washing, irrespective of whether they live in a flat or individual house
- However, ~59% are willing to consider using recycled water in future. This decision depends primarily on two factors – ‘feeling good for conserving’ and ‘operation and maintenance’. Interestingly, only ~11% chose ‘yuck factor’ contradicting what several government officials believe is the primary detriment.
- An overwhelming ~90% of residents support government policy on water recycling for industries while ~79% support government policy on water recycling for domestic use.

### Methods

- Reached out to more than 600 respondents through an electronic survey. In addition, 100 face to face interviews with residents of informal settlements were conducted.
- The survey was structured with multiple-choice questions.
- Data cleaning process: removal of duplicate entries, correcting pin codes, removal of responses outside Chennai and matching pin codes to zones; Open ended/ qualitative responses were coded; Outliers were excluded.