

From Hard To Soft: A Survey Exploring The Public Knowledge Of Water Softening Practices

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Abstract- This survey examines the level of public awareness regarding water softening and its associated benefits, methods, and environmental impact. As water hardness is a common issue in many regions. The survey was conducted among a group of participants to assess their knowledge about the causes of water hardness, available water softening solutions, and the potential consequences of untreated hard water. The findings indicate that while a majority of respondents are aware of water hardness, many lack detailed knowledge about the methods of water softening and their long-term benefits. The study highlights the need for increased education and public outreach to improve understanding and adoption of water softening solutions. The results suggest that better awareness could lead to more informed decisions regarding water treatment, improved water quality, and enhanced public.

I. INTRODUCTION

Hard water, with its high levels of calcium and magnesium, can lead to issues like scale buildup, reduced appliance efficiency, and higher maintenance costs. To address these concerns, water softeners offer an effective solution. This survey, conducted by us, as part of a project, aims to explore public awareness and the perceived ²benefits of water softeners. The results will provide valuable insights into consumer behaviour, highlighting the role of water softening in improving daily life and influencing technology adoption.

II. METHOD

We carried out a survey that consisted questions regarding the daily use of water softener used by our participants and also regarding their awareness towards the above topic. It was an online survey carried out via google form. The google form was sent to more than 85 participants across Pune district of Maharashtra state of India. Most of these were teenagers, college students and common people.

IV. RESULTS AND DISCUSSION

The responses gathered from respondents after the surveying procedure are graphically represented using a

People were from all over India and even foreign nation like Nepal. The sample size has extensive diversity in terms of gender, financial status and age groups.

Online google form was circulated via WhatsApp and E-mail to the participants. The questions asked in the survey were based on water softener used by people and also to check the awareness among people about hard water. Questions were also related to the problems they faced due to supply of hard water in the households and their personal experiences and changes they noticed after the use of water softener.

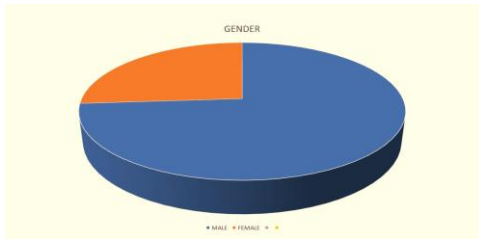
III. QUESTIONS FOR SURVEY

- 1) Gender
- 2) Were you aware of the hardness of your water supply before using a water softener?
- 3) How would you describe the hardness of your water supply before using a water softener?
- 4) Since using a water softener, how would you describe the hardness of your water?
- 5) Have you noticed improvements in household tasks (e.g., laundry, dishwashing, plumbing) since using a water softener?
- 6) How satisfied are you with your water softener?
- 7) Would you recommend using a water softener to others?
- 8) What type of softener do you use currently?
- 9) If you have a preferred brand, please specify: (Open-ended)
- 10) Please share any additional thoughts or experiences regarding water softeners and their effectiveness: (Open-ended)
- 11) Problems faced due to hard water (like hairfall, skin allergies)

pie chart. The results, including graphical representations and discussions, are shown below

1) Gender

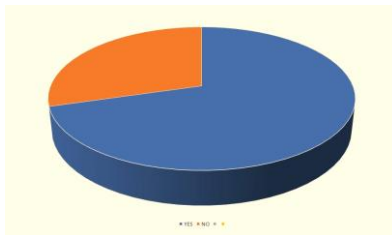
Sr.No	Responses	Percentage
1.	Male	73.86
2.	Female	26.14



Among our respondents 74% were male and rest 26% were female.

2)Were you aware of the hardness of your water supply before using a water softener?

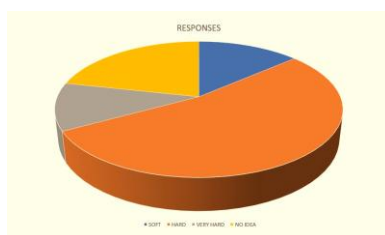
Sr.No	Responses	Percentage
1.	Yes	70.45
2.	No	29.55



We noticed that 70% people were aware of the concept of hardness but still the rest 30% didn't had any idea about it.

3) How would you describe the hardness of your water supply before using a softener?

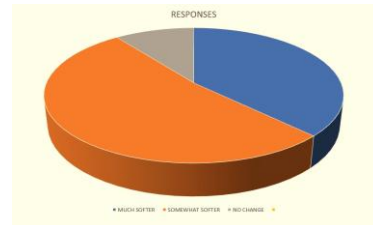
Sr.No	Responses	Percentage
1.	Soft	13.64
2.	Hard	53.41
3.	Very Hard	11.36
4.	No idea	21.59



Almost 54% people experienced hard water supply before the use of softener And 30% people were found to be unaware.

4) Since using a water softener, how would you describe the hardness of your water?

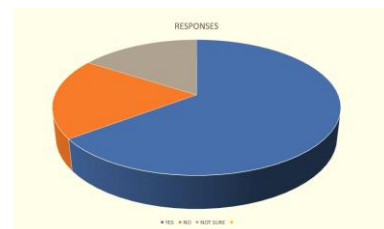
Sr.No	Responses	Percentage
1.	Much softer	37.5
2.	Somewhat softer	52.27
3.	No change	10.23



Almost 90% people agreed to the effectiveness of using a softener and noticed change and found water softer than prior after the use

5) Have you noticed improvements in household tasks (e.g., laundry, dishwashing, plumbing) since using a water softener?

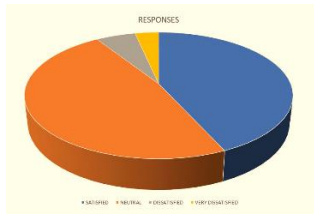
Sr.No	Responses	Percentage
1.	Yes	64.77
2.	No	19.32
3.	Not Sure	15.91



According to the survey 65% people noticed improvement in household chores after the use of water softener.

6) How satisfied are you with your water softener?

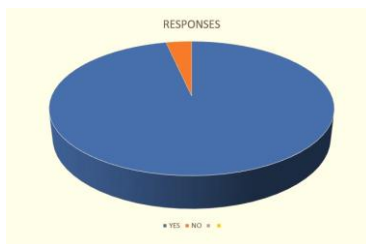
Sr.No	Responses	Percentage
1.	Satisfied	43.18
2.	Neutral	47.73
3.	Dissatisfied	5.68
4.	Very Dissatisfied	3.41



Almost 90% people were found to be satisfied with the use of water softener.

7) Would you recommend using a water softener to others?

Sr.No	Responses	Percentage
1.	Yes	88.64
2.	No	11.36



Almost 90% people among our respondents recommended the use of water softeners.

8) What type of softener do you use currently?

Sr.No	Responses	Percentage
1.	Drops	25
2.	Tap filter	34.09
3.	Shower filter	29.55
4.	Other	11.36



A diverse response was observed when data related to the type of water softener used was collected. 25% people used the drop filter, almost 35% used the tap filter and 30% used the shower filter.

V. CONCLUSION

In conclusion through this survey, we found out people’s point of view in the use water softeners which is a emerging water softening technique. We were also able to make people aware of the harmful effects of hard water usage in daily life.

VI. ACKNOWLEDGEMENT

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