



## ESSENCE OF WATER CONSERVATION FOR SUSTAINABLE DEVELOPMENT

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### ABSTRACT

*Water Conservation is emergent need of the hour considering the changes in the ecosystem and also important for sustainable development. According to report published in newspaper, around 163 Million Indians are deprived of clean drinking water, twenty one percent of the communicable diseases are linked to unsafe drinking water and approximately 500 children die because of diarrhea in India everyday. More than half the rivers are polluted and have been classified as unsafe by modern standards. Water bodies like India-Ganga, Yamuna and Sabarmati have been severly polluted by organic and inorganic waste. Water wastages figures in metropolitan and urban area have been in the range of 50% to 20%. On the average, this much amount of water is sufficient enough to provide drinking water to the 30% population of India. In view of the aforesaid discussion, it is essential to identify the main causes of water wastage and look for appropriate solutions to overcome this problem. The present study has been conducted to highlight the reasons of water wastage and suggest appropriate mechanism for dealing with the same. Various statistical measures have been employed to highlight the problem and drawing meaningful interpretations.*

**KEY WORDS:** Water Conservation, Sustainable development, wastage. Wilcoxon Signed Rank test

### INTRODUCTION

The situation of water scarcity in India is clearly visible and cause of concern for all living beings. According to the report, *Composite Water Management Index*, prepared by Niti Aayog, critical groundwater resources have depleted at an alarming rate and 600 million people in India have got exposed to “high to extreme water stress.”

The efforts of conservation have not resulted in any material positive outcome. Another report prepared by a government-aided body highlighted shrinking annual per capita water availability in this South Asian country and underlined the need for sustainable conservation of water, endorsing much of what water activists have campaigned for a long time. The Niti Aayog report has estimated that by 2030, 40 percent of India’s population will be deprived of access to clean drinking water. And India’s capital New Delhi, along with 19 other cities, including metropolitan cities Bangalore and Chennai, which are also major financial hubs, would run out of groundwater supply in the next few years. These estimations made by NITI Aayog are

sufficient enough for all of us to change our attitude towards water consumption and conservation.

### RESEARCH METHODOLOGY

In order to examine the perception and views of general public with regard to reasons of wastage of water and measuring the change in their attitude with regard to usage and preservation of water, a questionnaire was designed containing questions addressing to following issues :

1. Water availability – A major challenge towards human society.
2. Main reasons of wastage of water
3. Steps required for preservation and conservation of water
4. Change in their attitude towards water conservation after getting awareness about water problem in future.
5. Appropriate channel for spreading awareness regarding water problem.

The questionnaire, created using google form, was circulated through mail and information was



obtained from 60 respondents. Based on the responses, meaning interpretation was drawn. In order to assess the change in attitude with regard to water preservation of respondents after being acquainted with the gravity of threatening situation, Wilcox Signed rank test ( Non parametric test) was employed to assess if the campaign of water problem had significant impact on their behavior or not.

### DATA ANALYSIS AND INTERPRETATION

The demographic profile of the respondents in terms of gender, educational background and age is given below:

Gender	No. of Respondents
Male	28
Female	32
<b>Total</b>	<b>60</b>
Educational Background	No. of Respondents
Upto class XII	12
Undergraduate	28
Post Graduate and above	20
<b>Total</b>	<b>60</b>
Age	No. of Respondents
Upto 18 years	9
Between 18 to 50 years	38
50 years and above	13
<b>Total</b>	<b>60</b>

It can be observed that respondents are fairly equally distributed on gender basis and includes majority of respondents from adult age group and well educated segment of the society. The responses

submitted by the respondents can be considered as reliable and useful. The summary of result for each of the question of the questionnaire is given below

Q1	Do you think availability of water in future would be a major challenge towards entire human society ?
<b>Responses</b>	<b>All the respondents admitted by ticking "yes" that availability of water in future would be a major challenge towards entire society.</b>
Q2	What according to you are main reasons of wastage of water?
<b>Responses</b>	<ul style="list-style-type: none"> <li>a) Keeping tap open at the time of brushing and washing clothes (14)</li> <li>b) Consuming too much water for bathing (12)</li> <li>c) Leakage in pipes and taps ( 18)</li> <li>d) Excessive use of water for gardening and cleaning vehicles, etc. (11)</li> <li>e) All the above to some extent (5)</li> </ul>
Q3	What according to you would be most useful in preservation and conservation of water ?



<b>Responses</b>	<p>a) <i>Changing habits towards use of water. (18)</i>                  b) <i>Repairing leakages of pipes and taps. (8)</i>                  c) <i>Restricting use of water for gardening and cleaning vehicles,etc.(4)</i>                  d) <i>Restricting use of ground water through water pumps.(6)</i>                  e) <i>Increasing awareness among society towards proper use of water. (24)</i></p>
Q4.	How do you rank yourself towards awareness of proper use of water after media campaign and initiatives taken by Government?
<b>Responses</b>	<b>Respondents were asked to express their concern through a quantitative number between 0 to 10 , with '0' being the minimum and '10' being the maximum concern. The number given by respondents were analyzed using Wilcoxon Signed Rank test*.</b>
Q5	What among the following would be most appropriate channel for creating awareness water conservation program in the society?
<b>Responses</b>	<p>a) <i>Advertisement in TV Channels (10)</i>                  b) <i>Advertisement in Radios (0)</i>                  c) <i>Road shows/Nukkad Nataks (2)</i>                  d) <i>Message through SMS (0)</i>                  e) <i>All the above (48)</i></p>

The statistical output , using SPSS, on the responses received for question number (4) is shown below in table 1

	N	Mean Rank	Sum of Ranks
Negative Ranks	0 <sup>a</sup>	.00	.00
Positive Ranks	50 <sup>b</sup>	25.50	1275.00
Ties	0 <sup>c</sup>		
Total	50		

- a. Rankafter < Rankbefore
- b. Rankafter > Rankbefore
- c. Rankafter = Rankbefore

	Rankafter - Rankbefore
Z	-6.240 <sup>b</sup>
Asymp. Sig. (2-tailed)	.000

- a. Wilcoxon Signed Ranks Test
- b. Based on negative ranks.

**Table 1: SPSS Output of Wilcoxon Signed Rank test**

Based on the responses for various questions, it can be interpreted that the educated and adult segment of our society are well informed of the problem relating to availability of water in future. Among the various reasons which result in wastage of water, almost all

reasons were considered equally responsible with leakage in pipes and taps identified as most important prominent reason followed by disproportionate use of water for brushing teeth, bathing and cleaning vehicles ,etc. To overcome these kind of problems, the views of the respondents with regard to necessary steps to be initiated was sought and majority of the respondents



recommended that a campaign so as to increase awareness among society regarding proper usage of water and the threatening consequences in future, if we continue with the same practice, to the human life can prove effective in overcoming the problem. The extent to which such campaign can bring change in attitude and behavior of respondents was examined using Wilcoxon Signed Rank test on comparing concern towards water issue before and after being aware of threatening situation of availability of water. As the p-value is 0.00 i.e. less than 0.05, it implies that the null hypothesis that there is no significant impact is rejected and one can conclude that the campaign had significant impact on the respondents with regard to problem in water in future.

### CONCLUSION OF THE STUDY

The survey study conducted on 60 respondents revealed that all the educated adult section of our society is familiar with the foreseeable problem of water in future and supports the programs for increasing awareness among all the people of society. An urgent attention and need is being felt for responsible attitude of all citizens in bringing change in their attitude towards use of water and water conservation. The responsible citizens are expected not only to display change in their behavior but also educate others with the threatening situation of water which may arise due to irresponsible behavior of some section of society. The education and awareness of the water problem through different kind of campaigns would help people in understanding the seriousness of the problem and would bring change in their behavior as proved statistically in the case of respondents. Such behavior of the society would help in achieving sustainable development goal also for which the entire world is looking forward.

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