



# A Study on Awareness of Water Conservation Among the Peoples of Purba-bardhaman District in West Bengal, India

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## ABSTRACT:

water is the most important natural resource for all living organisms, including humans. The combined effects of global population increase, climate change, and lifestyle changes are exerting growing pressure upon our vital water resources leading to widespread water stress in many countries. In recent years the water table is facing a serious threat. So, we must think about water conservation and how we can contribute to it. Conserving water is important because it keeps water pure and clean, protecting the environment. Conserving water means using our water supply wisely and responsibly. This study discusses awareness of water conservation between rural and urban peoples in Purba-Bardhaman. 200 people comprising Rural and Urban peoples, Rural male and Urban male peoples, and Rural female and Urban female peoples (in equal numbers) of 18-45 years from the Purba-Bardhaman district in West Bengal. The study revealed that (i) Awareness of urban and rural people toward water conservation differ significantly ( $<.05$  &  $.01$ ); (ii) Awareness of urban male and rural male people toward water conservation differ significantly; (iii) Awareness of urban female and rural female peoples towards water conservation does not differ significantly. The entire samples, Rural and Urban peoples, Rural male and female peoples, and urban male, and female peoples were treated equally and the scores of that samples were successfully interpreted.

**KEYWORDS:** Awareness, Environment, Natural resource, Water Conservation.

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## I. INTRODUCTION

Water is one of the vital Natural resources in all living creatures. Everyone needs water to survive. Without water, we can't live. In Especially, Humans use water in daily life for various purposes like drinking, bathing, washing, cooking, industry, fertilizers, petroleum refining, construction building, and many more activities. We all know that 97% of the water out of 100% of our planet is covered in cold water that we can not use. The left 2% of water is cool. So, we only have 1% used for various purposes. Indian Govt. is aware that groundwater is being withdrawn at unsustainable rates in some areas, and in 1986 it established a Central Ground Water Authority. So, now feel why water conservation is important to us. Therefore, it is our responsibility to conserve water. But, many peoples in India have abused water every day. They have no proper idea what problem can be faced in the next few years. Because water is a renewable but limited resource. It can be recycled but not replaced.

Water, the most precious gifts of nature, are very essential not only to mankind but to flora and fauna also. All living creatures on mother earth have a right to the environment to survive. According to section 2 (a)

of the Environmental Protection Act, 1986 'Environment' includes (I) water, air, and land (ii) the inter-relationship which exists among and between, (a) water, air, and land, and (b) human beings, other living creatures, plants, microorganisms, and property. There is an inseparable relationship between man and the environment. It is, therefore, our bounden duty to protect our environment for the peaceful survival of mankind as well as flora and fauna. To protect the environment and the ecology of man, a special strategy has been started since the stock home conference on Human Environment, 1972. Since then, the Indian Govt. has also taken several legislative and executive measures and constitutional amendments to protect and preserve the environment through conserving water, air, land, etc.

The important pre-requisites for the successful introduction of water conservation awareness in society include the existence of clear and well-communicated policies; proper preparation and planning of peoples through training; the availability of materials for conservation purposes; networks for the exchange of expertise between peoples, etc.

## **II. REVIEW OF RELATED LITERATURE**

**2.1 Ramappa, KB., and others (2014)** analyzed a study on Water Conservation in India: An Institutional Perspective. The inventiveness taken up by different institutions and objectives of this study was to comprehend the current status and future demand for water in the country for various subdivisions. Finally, the results of this study were that, due to the overexploitation of water resources, it has become scarce in many parts of the country and needs instantaneous action by both people and the Indian Government very soon.

**2.2 Smith (1998)** discussed in his paper the use of subsidies for soil and water conservation (SWC) in the KRIBHCO Indo-British Rainfed Farming Project being applied in degraded areas in the west of western. The author of this paper recommended that for private farmland, farm households are sponsored with fixed land improvement grants (rather than paying those who participate in the SWC work), and the growers and their hamlet members should deliberate how the money would best be used otherwise they can propose a fixed subsidy per unit area for collective land improvement and when watershed management is conducted on a village, basis.

## **III. AIMS OF THE STUDY**

Water conservation has become a very important issue at present. In this educated society, very few peoples understand the importance of water. Peoples use the extra natural resources they need for their interests; they take away the issue of conservation. Because of this, we are exposed to a complex problem today, for which we are responsible. If we are not yet aware then our existence will be over in a very short time. It is through this study that the rural and the peoples of the urban are aware of how conscious water conservation is. The aim of the present study is Awareness of Water Conservation between Rural and Urban peoples in Purba-Bardhaman District, West Bengal, additionally, every individual depends on water for livelihood, we must learn how to keep our limited supply of water pure and away from pollution.

## **IV. OPERATIONALIZATION OF DIFFERENT TERMS**

**4.1 Awareness:** Awareness is a state of eloquence and being informed of something. In the context of this study, being conversant about the problems of global warming, exploitation of groundwater, etc. is an example of having a consciousness of the problems.

**4.2 Water Conservation:** Water conservation refers to the safeguarding, control, and development of water resources, both exterior and groundwater, and the deterrence of pollution. Water conservation is the exercise of using water efficiently to reduce unnecessary water usage. Water conservation is important because fresh clean water is an imperfect resource, as well as a costly one. Conserving water is important because it saves water pure and clean while defensive the environment. Conserving water means using our water supply wisely and being responsible.

**4.3 Irrigation:** Irrigation is the agricultural process of smearing controlled amounts of water to land to backing in the production of crops, as well as to produce landscape plants and lawns, which may be known as watering, but in the context of this study excessive irrigation is concerned.

**4.4 Freshwater:** Conservation of freshwater properties, which is defined as the preservation of the significant values of these resources as well as the nourishing of the productivity of the aquatic ecosystems, requires the application of a specific management approach that is referred to in this research as "freshwater awareness".

**4.5 Groundwater:** Groundwater conservation suggests a scope of measures aimed to avert and remedy the harm of water clogging and depletion, and maintain such quality and quantity of groundwater that were used for the national economy's needs.

**4.6 Aquatic:**Water also comprises dissolved oxygen and other gases from the air, dissolved minerals from the Earth, and biological matter. Gases, minerals, and organic matter supply essential rudiments and nutrients needed by aquatic organisms to live and grow underwater.

**4.7 Drainage:**Drainage is the natural or non-natural removal of a surface's water and sub-surface water from an extent with aspare of water.

## **V. OBJECTIVES OF THE STUDY**

The following objectives are laid down for the present study.

5.1 To find out the difference in awareness of water conservation between urban and rural peoples.

5.2 To find out the difference in awareness of water conservation between urban male peoples and rural male peoples.

5.3To find out the difference in awareness of water conservation between the urban female peoples and ruralfemale peoples.

## **VI. HYPOTHESES OF THE STUDY**

**H<sub>01</sub>:** There is no significant difference in awareness between urban peoples and rural peoples towards water conservation.

**H<sub>02</sub>:**There is no significant difference in awareness between urban male peoples and rural male peoples towards water conservation.

**H<sub>03</sub>:** There is no significant difference in awareness between urban female peoples and ruralfemale peoples towards water conservation.

## **VII. METHODOLOGY**

The present study was carried out through a descriptive survey method. The details regarding sample, tools, statistical analysis, etc. have been reported as under.

## **VIII. SAMPLE**

For sample drawing“purposive random sampling” technique was adopted in this study. For the present study, 425 people were taken from urban and ruralpeopleof the Purba-Bardhaman district in West Bengal.

**The inclusion criteria of the samples are as follows-**

- The study is bounded to 425 participants only;
- To collect information, we were collected information by dividing the people according to different ages (18<sup>+</sup>-50yrs.), literacy, and both male and female people were taken;
- All residential types (rural & urban) of people will be included;
- The study is bounded to the variables of people's awareness & water conservation only.

**The exclusion criteria of the samples are as follows-**

- Participants will be either male or female, no Tran's gender;
- No participant was taken above the age of 50 years.

## **IX. TOOLS**

Awareness of water conservation-related closed-ended questionnaires was used in the present study for collecting data on awareness of water conservation of the peoples of the Purba-Bardhaman district in West Bengal. Among the different techniques available, a 3-point scale i.e., Agree(A), Disagree (DA), and No Comment (NC) Likert type of ratings is adopted. The questionnaire consists of a series of a statement all is related to water conservation. There are three dimensions in which twenty statements fall, these are knowledge, opinion, and awareness. The tools were selected by applying the yardsticks of relevance, appropriateness, reliability, suitability, etc.

## **X. ADMINISTRATION AND DATA COLLECTION**

General information schedule viz; Name, Age, Gender, Address, Educational Qualification were administered to the selected group of subjects by giving proper instructions. Data were collected through online & offline surveys.

## **XI. SCORING AND TABULATION**

Scoring was done with the help of the standard scoring key. Tabulation was done for each group and each test separately.

## **XII. RESULT AND INTERPRETATION**

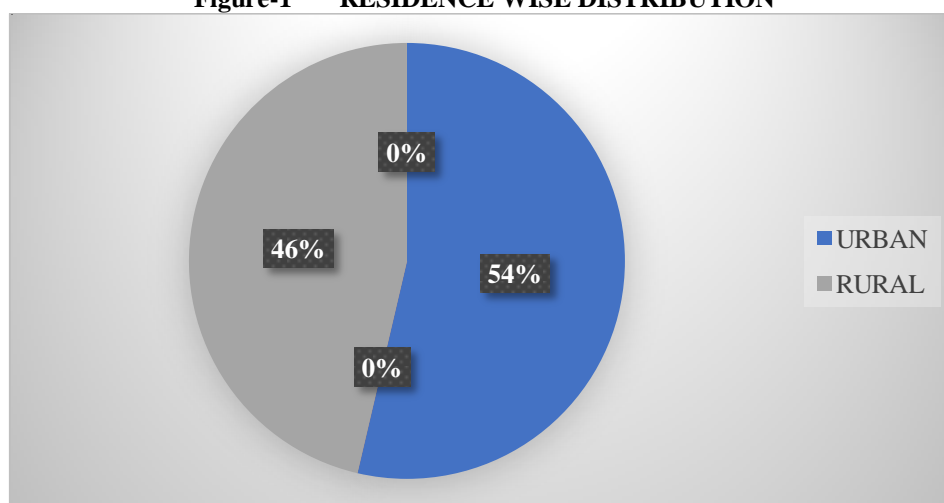
The general characteristics data inserted in Table-1 reveals the characteristics and features of the subjects under study.

**Table-1:** General characteristic feature of the subject—

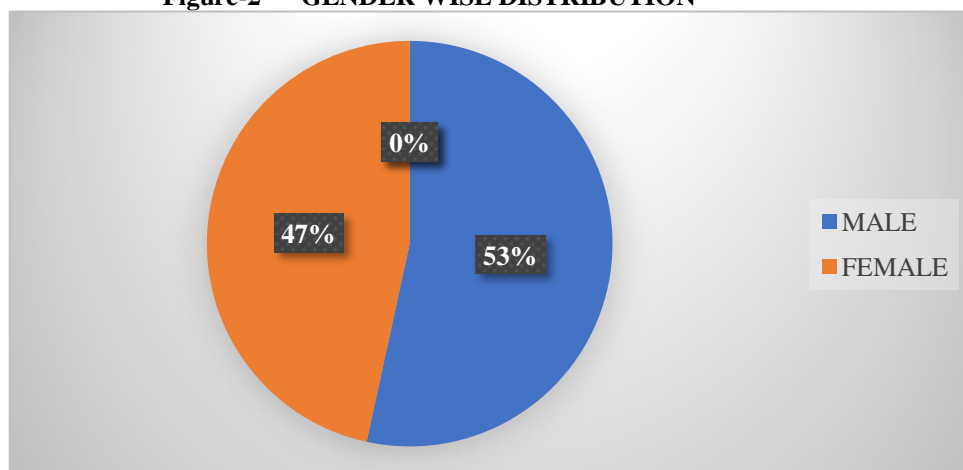
GENERAL CHARACTERISTICS	N	%
<b>RESIDENCE</b>		
Urban	228	53.65
Rural	197	46.35
<b>GENDER</b>		
Male	227	53.41
Female	198	46.59
<b>MALE-FEMALE DISTRIBUTION</b>		
Urban Male	134	31.53
Rural Male	93	21.88
Urban Female	74	17.41
Rural Female	124	29.18

**FIG-1-FIG-3:** Diagram showing General characteristic features of the individual of Purba-Bardhaman district in West Bengal, India.

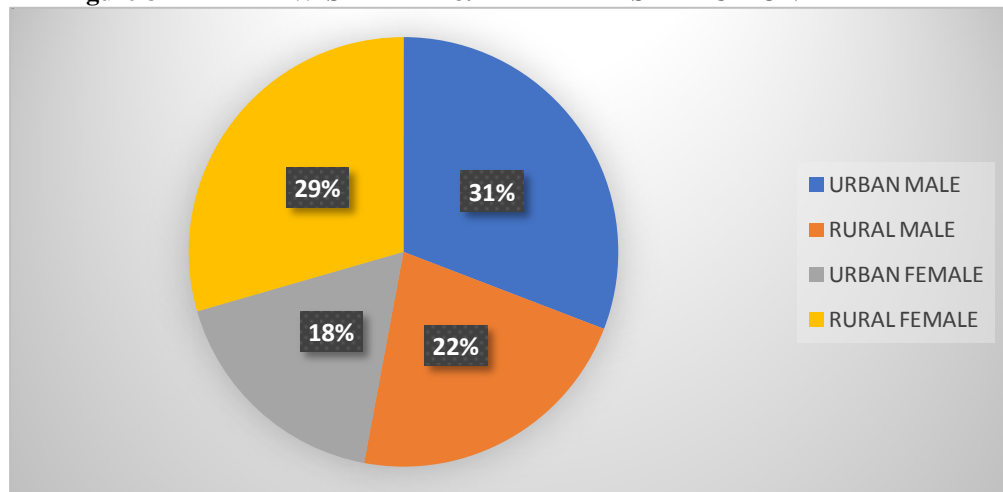
**Figure-1 RESIDENCE WISE DISTRIBUTION**



**Figure-2 GENDER WISE DISTRIBUTION**



**Figure-3 AREA WISE MALE & FEMALE DISTRIBUTION**

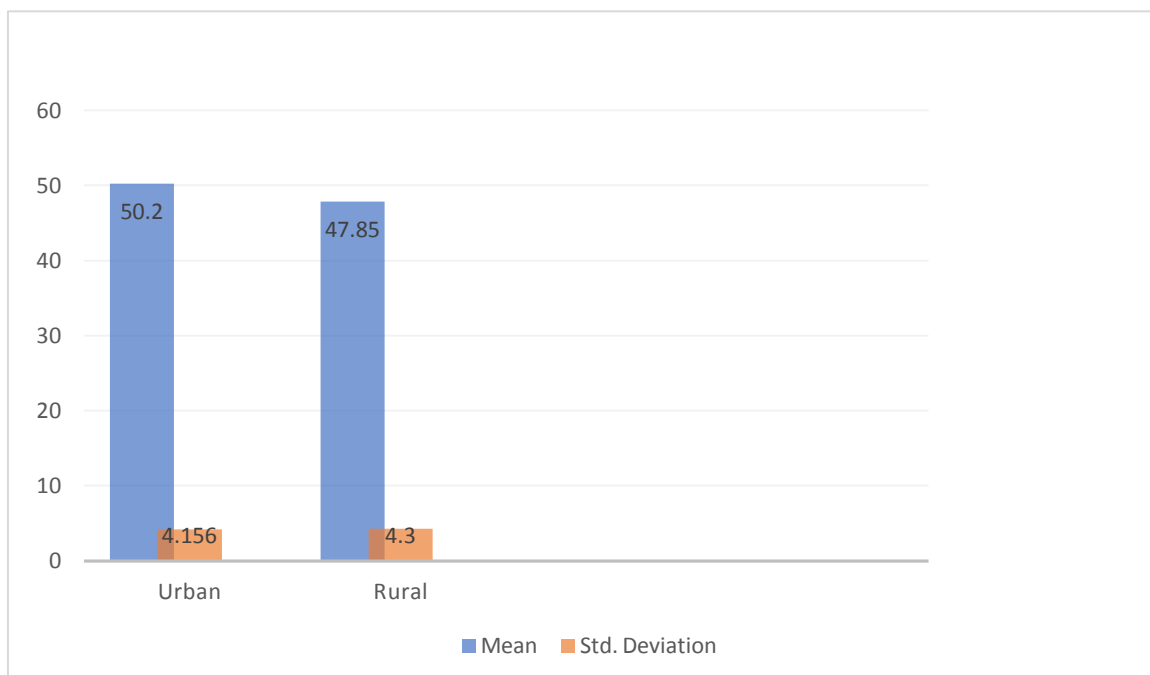


**Table-2**

$H_{O1}$  = Awareness of urban and rural peoples towards water conservation differ significantly.

	M	N	SD	SED	Z value	Significance
Urban	50.20	228	4.156	.597	3.94	significant
Rural	47.85	197	4.30			

**Figure-4:** Diagram showing comparisons between the Urban and Rural people's Mean & SD who are belonging to the state of West Bengal, India.



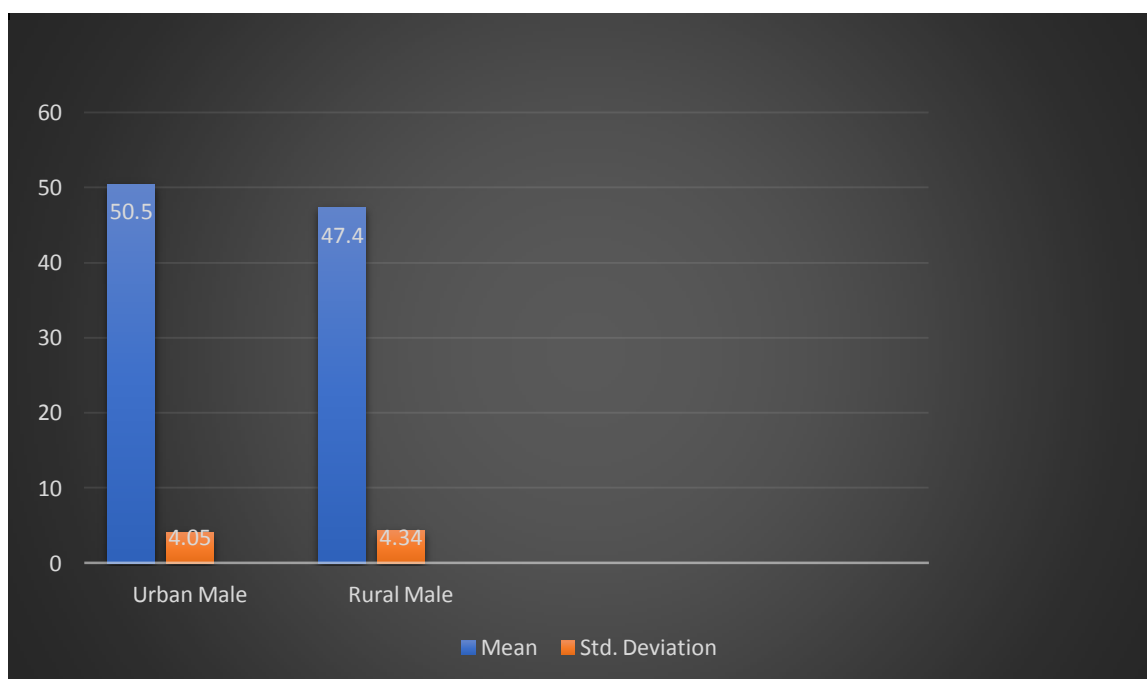
The mean score of urban people is 50.20 and SD is 4.156 whereas the rural people's mean is 47.85 and SD is 4.30. The Standard Error of Difference (SED) is .597. The computed Z value is 3.94. From the table, it is verified that the value of 3.94 is significant at .05 and .01 levels. From the statistical analysis, we can state that the awareness of urban people toward water conservation differs significantly from that of rural people.

**Table-3**

**HO<sub>2</sub>**= Awareness of urban male and rural male peoples towards water conservation differ significantly.

(Urban and Rural Male Peoples)	N(samples)	M(mean)	SD (standard deviation)	SED	Z value	Significance
Urban Male	134	50.50	4.05	3.69	.839	significant
Rural Male	93	47.40	4.34			

**Figure-5:** Diagram showing comparisons between the Urban and Rural Male people's Mean & SD who are belonging to the state of West Bengal, India.



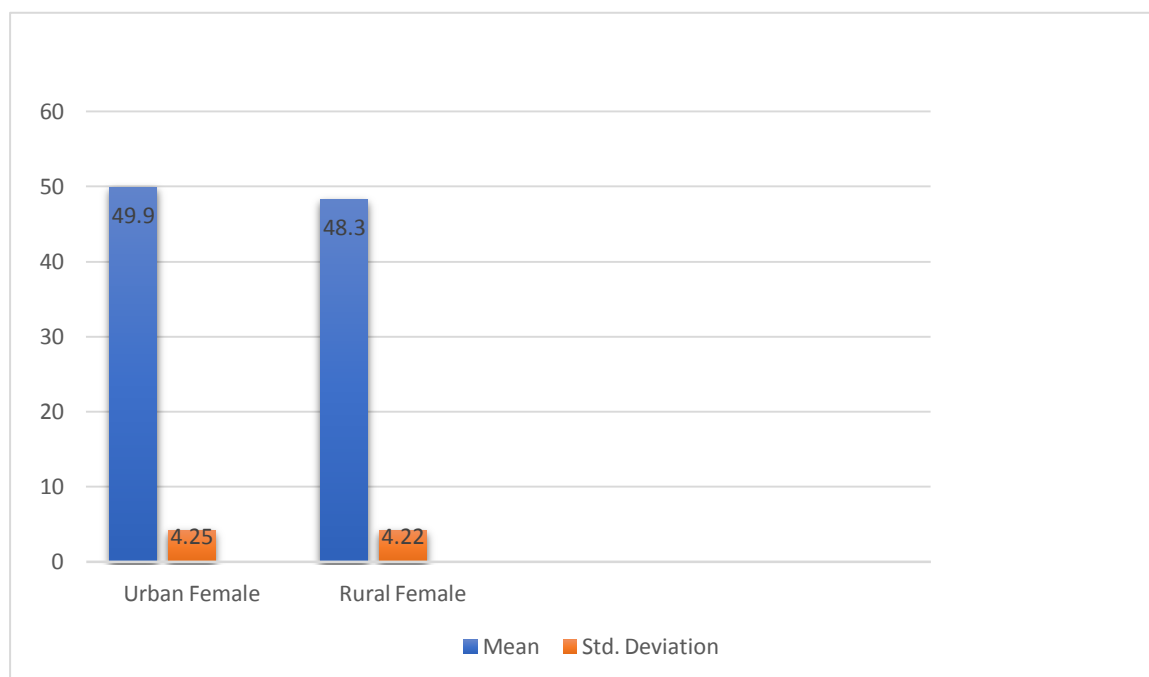
The mean score of urban male people is 50.50 and SD is 4.05 whereas the rural male people's mean is 47.40 and SD is 4.34. The Standard Error of Difference (SED) is .839. The computed Z value is 3.69. From the 't' table it is seen that the value is significant at 0.05 and 0.01 levels. Therefore, we may conclude that the urban male peoples are more aware than rural male people of water conservation.

**Table-4**

**HO<sub>3</sub>**= Awareness of urban female peoples and rural female peoples towards water conservation does not differ significantly.

Urban and Rural peoples	N(Samples)	M(Mean)	SD (Standard Deviation)	SED	Z value	Significance
Urban Female	74	49.90	4.25	.846	1.89	insignificant
Rural Female	124	48.30	4.22			

**Figure-6:** Diagram showing comparisons between the Urban and Rural Female people's Mean & SD who are belonging to the state of West Bengal, India.



The mean score of urban female people is 49.90 and SD is 4.25 whereas the mean score of rural female people is 48.30 and SD is 4.22. The standard Error of Difference (SED) is .846. The computed Z value is 1.89. From the 't' table it is seen that the value is insignificant at the 0.05 level. Therefore, we may conclude that the awareness of urban female people and rural female people toward water conservation does not differ significantly.

### **XIII. CONCLUSION**

Clean water is a very essential component of life, so we need to conserve water for future safety. Clean water is not only a necessity for human beings but is also important for the survival of other species. After analyzing this study, it is seen that the people of urban (both male & female) are more aware of water conservation than the rural people. And, hence, the conclusion may be justified. But to be confirmed enough further study should be done more extensively.

### **XIV. LIMITATIONS OF THE STUDY**

The present study has been delimited in the following aspects.

- The sample size was reduced to 425 only;
- The study was confined to the Purba-Bardhaman district only;
- Variables are reduced to ages of 18-50 years only;
- The study was restricted to a self-made questionnaire for the survey;
- Due to a shortage of time and resources the study has been delimited in terms of better analysis.

### **XV. APPLIED VALUE**

Several practical implications can be made based on the findings of the present study. This research will provide an overall idea that the rural and the peoples in the urban are aware of how conscious water conservation is. The findings also indicate the personal and social awareness about water conservation in today's situation. All these findings can potentially help the people of India and outside India. Moreover, this research could contribute to understanding the need for water in our lives and help students as well as people about how to successfully solve the water scarcity and conserve the water, additionally aware the farmer and others that excess water irrigation is harmful to our next generation.

## **XVI. FUTURE LINE OF WORK FOR WATER CONSERVATION**

Need for effectual management performs such as the embracing of improved technologies such as scarcity tolerant varieties, use of sprayer irrigation systems and covering techniques in agriculture, preserving water quality, defending water catchment areas, etc.

- Sustained efforts of government and other outside agencies in water conservation and management;
- Non-natural recharge to groundwater both in rustic and town areas;
- Assessment of all watershed projects/agendas for understanding probable positive and negative impacts to make essential corrections;
- Incentivise farmers for up-taking of upkeep practices and disheartening water waste in their fields;
- Reassurance of R&D on worldwide climate change, etc.

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