

Assess the Knowledge Regarding Rain Water Harvesting Among the People Residing at Selected Areas of Thiruvananthapuram, Kerala

S. Smitha Rani*

Vice Principal, SP Fort College of Nursing, Thiruvananthapuram, India

Abstract: This paper presents to assess the knowledge regarding rain water harvesting among the people residing at selected areas of Thiruvananthapuram, Kerala.

Keywords: Knowledge, People, Rain water harvesting.

1. Introduction

The basic physiological requirement for drinking water has been estimated for about 2 liters per head per day. This is just for survival. But from the stand point of public health and improvement of the quality of life; water should be provided in adequate volume. The consumption of water depends upon climate conditions, standards of living and habits of people. A daily supply of 150-200 liters per capita is considered as an adequate supply to meet the need for all domestic purposes. In India 40 hours of water supply per capita per day was set off target achieved in the rural areas. The annual rain fall over India is computed to be 1170 mm [46 inches]. This is higher compared to the global average of 800mm [32 inches]. However, this rainfall occurs during the month of June-September, because of this intensity and short duration of heavy rainfall leaving very little for the leakage of ground water. Tamil Nadu was the first state to make rain water harvesting compulsory for every building to avoid ground water depletion. This scheme was launched in all rural areas of Tamil Nadu. In India rain water harvesting has been practiced for more than 4000 years. Michael M C Jackson was the one who introduced rain water harvesting.

Reasons behind the scarcity of water in India is most commonly man-made due to excess population growth and management of water resources. Some of the major reasons for water scarcity are, traditional technique of irrigation causes maximum water loss due to evaporation drainage and excess use of ground water, water pollution, climate changes unsustainable energy production population growth has increased leading to scarcity. In general water harvesting is the activity of direct collection of rain water. Rain water collected can be stored for direct use or can be reached into the ground water. Rain is the first form of water that we know in the hydrological cycle. Hence in a primary source of water for us,

rivers, lakes and groundwater are all secondary source of water.

Rain the purest water in the nature. Physically it is clear, bright and sparkling. Chemically it is very soft water containing traces of dissolved salts. Rainwater is a free source of nearby pure water. A part of rain water sinks in to ground to form ground water. Water is available in plenty but people are facing drought. This rain can be stored for future use. This helps to raise the level of ground water which can be accessible. Rain water harvesting refers to collection and storage of rain water and other activities aimed at harvesting surface and ground.

Water intended for human conception should be safe and wholesome. It should be free from pathogenic agents, free from harmful chemical substances, pleasant to taste, free from order and colour, usable for domestic purposes. Water is said to be polluted or contaminated when it does not fulfil above criteria. Water pollution is a growing hazardous in many developing countries due to human activity. Without ample and safe drinking water, we cannot provide health care to community.

The present study is to assess the knowledge regarding Rain water harvesting among people in selected areas of Trivandrum. After getting the written consent from the participants of Vizhinjam area, 80 samples were selected and given a structured questionnaire for getting feedback within 30 minutes. After that a planned health teaching had been given for 30 minutes about Rain water harvesting by using booklet. After the analysis, the result showed that there is significant association between knowledge and age, educational status, source of knowledge and no association between knowledge and type of house, sex.

The research approach used in this study was Non experimental quantitative research approach and the research design is adopted in the study is descriptive research design. Samples were selected by convenient sampling technique. Younger adults who are willing to participate in the study and in age group of 25 years to 44 years who are able to read and write Malayalam were included in the study and those who were attended the class segment recently about rainwater harvesting and people who are working in the field of rainwater harvesting were excluded.

The tool for data collection is of two sections as Section A,

*Corresponding author: smithasanal2001@gmail.com

consists of demographic variables such as age, gender, education, source of information and area of residence and Section B which includes self-structured questionnaire to assess the level of knowledge regarding rainwater harvesting. Each correct answer carries '1' mark and incorrect answer got '0' mark. No negative mark for wrong answers and the total score was 30 in that grading of scores were given as Poor (0-10), Average (11-20), Good (21-30).

2. Result of the Study

In this study most of the people (44%) belongs to above 44 years of age and there were equal distribution in both males and females (50%). Majority of people (30%) had 10th and below 10th educational status, about 53% people are having terraced houses. Majority of people (47%) had source of information from health workers. It was found that only 10% people have good knowledge level, about 64% people have average knowledge and 26% have poor knowledge of rain water harvesting. Chi-square test was done to find out the association between level of knowledge and demographic variables and it was observed that there were association between knowledge, age, gender educational status, type of house, and source of information at the level of p value > 0.05.

Table 1
Distribution of sample according to age (n = 80)

Age	Frequency	Percentage
25-34 Years	27	31%
35-44 Years	24	26%
Above 44 Years	39	43%
TOTAL	80	100%

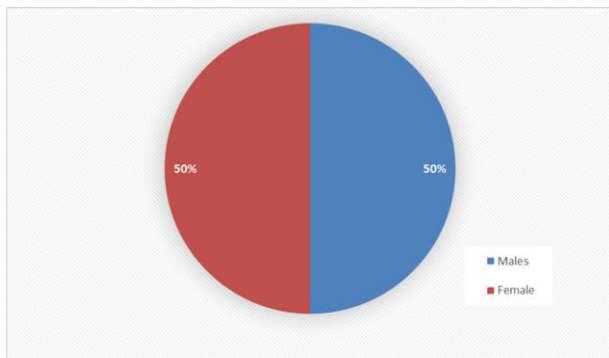


Fig. 1. Distribution sample according to gender

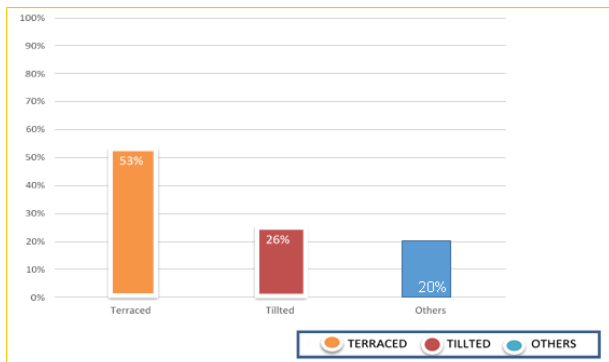


Fig. 2. Distribution of sample according to types of house

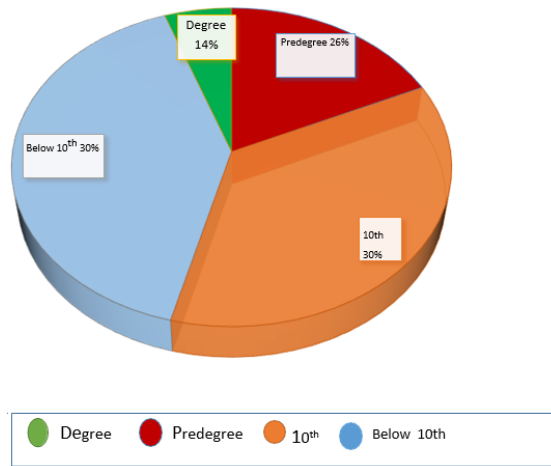


Fig. 3. Distribution of sample according to educational status of people

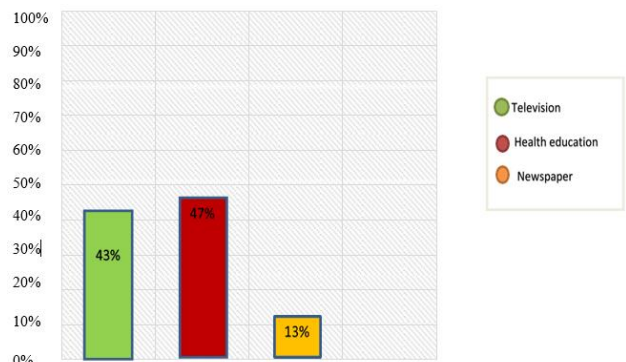


Fig. 4. Distribution of sample according to source of information

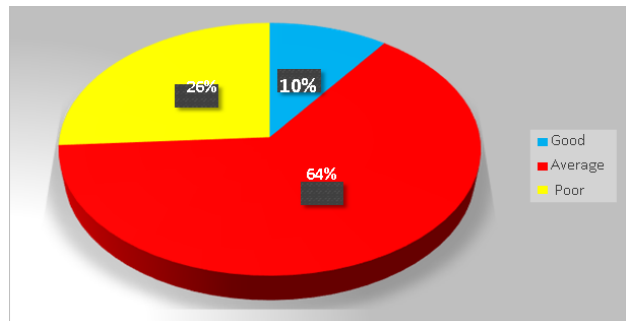


Fig. 5. Distribution of people according to knowledge score regarding rain water harvesting

The above table and figure shows that the assessment of knowledge regarding rainwater harvesting among the people. It reveals that 10% of people have good knowledge level, about 64% people have average knowledge and 26% have poor knowledge of rain water harvesting.

3. Conclusion

The benefits of rain water harvesting are; it helps in reducing the water supply bills especially to the institution. Rain water recharged to the ground positively affects ground water quality by diluting fluorides, nitrates and its salinity. It may reduce the stress of public water supply sources; recharge of rain water to the ground prevents sea water immersion into the fresh water bodies in the coastal areas, rain water harvesting system helps

in reducing the insecurity of households or individuals in the rural area and can be used for landscape irrigation, cleaning and washing source of drinking water supply in urban areas and other uses and is the most effective and simplest way that every individual can adopt.

References

- [1] J. R. Julius, R. Angeline Prabhavathy, and G. Ravikumar, "Rainwater Harvesting (RWH) – A Review," in *International Journal of Scientific & Engineering Research*, vol. 4, no. 8, pp. 276-282, August 2013.
- [2] Clark S. E., K. A. Steele, J. Spicher, C. Y. S. Siu, M.M. Lalor, R. Pitt, J.T. Kirby, "Roofing Materials' contributions to storm water runoff pollution," *Journal of Irrigation and Drainage Engineering*, 134(5).
- [3] Georgia Department of Community Affairs. Georgia Rainwater Harvesting Guidelines. Atlanta, GA. 2009.
- [4] International Association of Plumbing and Mechanical Officials (IAPMO). Green Plumbing & Mechanical Supplement. Ontario, CA. November 2010.
- [5] Water harvesting and rural development in India International Institute for Environment and Development, London: Gatekeeper series, vol. 87.
- [6] Government of India, Central Public Works Department, Rainwater Harvesting and Conservation Manual, 2002.
- [7] The Mahatma Gandhi National Rural Employment Guarantee Act, 2005.
- [8] Water Resource Information System of India.
<http://www.indiawris.nrsc.gov.in/>
Ministry of Statistics and Programme Implementation, MPLADS.