

URBAN CONSUMERS ATTITUDE AND AWARENESS TOWARDS RAIN WATER HARVESTING IN SALEM DISTRICT, TAMIL NADU

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(b) Abstract

One of the biggest challenges for 22nd century is to fight against growing water scarcity. It can be solved by going in for rain water harvesting. Rainwater harvesting techniques are essential to obtain a supplemental water source for groundwater, which is being depleted over time due to over exploitation of ground water table. The aim of this study is to examine the consumer's awareness and attitude regarding rainwater harvesting and the problems in effective implementation of RWH in their home, using a survey of 45 urban households in Salem District, Tamil Nadu. The study found that lack of motivation, involvement, acceptance and awareness, lack of space, high costs of creation and fear of causing damage to the building were cited as the major reasons for not having effective RWH structure in their home. The study recommends creation of awareness regarding the importance of RWH among each and every citizen of the country together with government legislation coupled with automatic monitoring systems which could bring hundred percent successes in the effective implementation of RWH.

Key words: Rain Water Harvesting (RWH), Households, Survey.

Introduction

Water is the most precious natural resource. But with the current depleting levels of water, it has become increasingly important to create awareness about water and a need to save it. The main reason for water crisis is environmental pollution. As a result of the pollution the underground layer of soil and water is depleting fast. Tube wells and taps are running dry in summer as the aftermath of this depletion. People have started starving for water especially in the arid areas. As a result, they are paying price for bottled, canned and packet water which is highly unhygienic. This makes them fall ill and at times also gives way to epidemics. People are not only dying of thirst but also of diseases caused by unhygienic water. Such reality forced us to adopt many ways of preserving water. One among such methods is rainwater harvesting. With this backdrop about the need for preserving water we will move forward to the objectives of the study.

Objectives of the study

- To understand the meaning and importance of RWH.
- To assess the attitude and awareness about RWH among the selected households in Salem District, Tamil Nadu.
- To find out the problems in the effective implementation of RWH among the selected households in Salem District, Tamil Nadu.
- To suggest measures for the effective implementation of RWH.

What is rainwater harvesting?

Rainwater harvesting is the process of collecting the rainwater from the surfaces when it falls and then collecting it for the use in the future. Usually, the water is collected from the roof and stored in a tank. It can also be stored in dams or let it fall on the ground, creating a runoff. Rainwater harvesting is sustainable, economical and safe source of good quality water if collected and stored in right way.

Rainwater harvesting methods

There are two main methods of RWH namely surface runoff harvesting and rooftop harvesting. Surface runoff method is used mainly in the urban areas where the rainwater flows away as the surface runoff. In case of rooftop harvest method, rainwater is collected where it falls. When compared to two methods, rooftop harvest method is very effective and economical.

Merits of rainwater harvesting

Rainwater harvesting helps in reducing water supply loads in urban areas and electricity bills of municipality. It also improves free water supply thereby increasing crop production in rural areas which paves the way for food security.

Tamil Nadu tops the list

Tamil Nadu is the first Indian state where rainwater harvesting has been made mandatory. Tamil Nadu state government has declared on 30th May 2014 to establish around 50,000 RWH structures at various places in Chennai. As of December 2018, 4000 temples in Tamil Nadu have rain water tanks which help in performing the daily rituals at temples thereby also recharging the ground water table.

Government programmes on Rainwater Harvesting

Tamil Nadu Government

- Chennai Metropolitan Water Supply and Sewage Board (CMWSSB) has taken initiative to constitute “Rainwater Harvesting Cell” to create awareness and to offer technical assistance to people at free of cost.
- In July 2003, laws relating to Municipal Corporations and Municipalities in the state have been amended making it mandatory for all the existing and new buildings to provide rainwater harvesting facilities.
- Tamil Nadu government has achieved cent percent coverage in roof top rainwater harvesting.

Central Government

- The apex agency for water resources “Central Ground Water Board” was formed in 1970 to frequently conduct awareness, installation programmes on RWH.
- The Central Government has announced Ground Water Augmentation Awards in 2007.
- There are 21 Ground Water Augmentation Awards (Boomijal Samvardhan Puraskars) and this is one National Award for all categories taken together consisting of cash award of Rs.1 lakh and plaque with citation.

Research Methodology

The study is both descriptive and analytical in nature. Non-probability sampling technique called purposive sampling method was adopted to select the sample respondents.

Data Collection

The study employed both primary and secondary data collection method. A well-structured interview schedule was framed to collect information from the respondents. Secondary data related to RWH was collected from books, journals and magazines.

Study area

Fairlands (Alagapuram), a very porsch urban area in Salem District, Tamil Nadu was chosen as the area of study as all households had RWH structures. Sample size for the study is 45 and duration of the study was carried out for one week i.e. from 15.05.2019 to 21.05.2019.

Statistical tool

SPSS software was used to analyze the data and percent analysis method was employed.

Limitations of the study

The study is restricted to Salem District, Tamil Nadu. Therefore the collected data cannot represent the entire economy as a whole. As interview schedule method was adopted to collect information from the respondents, informational bias will be an unavoidable factor in the study.

Data Analysis

The following table shows the analysis of the data collected for the study purpose

Table 1.1 Socio Economic Profile, Awareness and Attitude towards RWH

| S. No. | Attributes | Category | No. of respondents | Percentage (%) |
|--------|------------------------------------|-------------------|--------------------|----------------|
| 1. | Age | 20-40 | 13 | 29 |
| | | 41-60 | 26 | 58 |
| | | 61-75 | 6 | 13 |
| 2. | Education | Illiterate | 2 | 4 |
| | | Primary | 1 | 2 |
| | | Middle | 3 | 7 |
| | | High School | 6 | 13 |
| | | Graduate | 28 | 63 |
| | | Post Graduate | 5 | 11 |
| 3. | Type of family | Nuclear | 38 | 84 |
| | | Joint | 7 | 16 |
| 4. | Size of family | 2-3 | 12 | 27 |
| | | 4-6 | 29 | 64 |
| | | 7 and above | 4 | 9 |
| 5. | Occupation | Employed- Private | 16 | 36 |
| | | Employed- Govt. | 9 | 20 |
| | | Self-Employed | 4 | 9 |
| | | Business | 11 | 24 |
| | | Professional | 5 | 11 |
| 6. | Annual Income of family (in Lakhs) | 3-5 | 5 | 11 |
| | | >5-8 | 24 | 53 |
| | | >8-12 | 7 | 16 |
| | | >12 | 9 | 20 |

| | | | | |
|-----|--|-----------------------------|----|-----|
| 7. | Awareness about RWH | Yes | 45 | 100 |
| | | No | 0 | 0 |
| 8. | Source of Awareness | Media | 3 | 7 |
| | | Advertisement | 4 | 9 |
| | | Government regulations | 38 | 84 |
| 9. | Do you have RWH structure? | Yes | 45 | 100 |
| | | No | 0 | 0 |
| 10. | Type of RWH structure | Surface Runoff | 41 | 91 |
| | | Roof Top Harvesting | 4 | 9 |
| 11. | If yes, is it in working condition? | Yes | 16 | 39 |
| | | No | 25 | 61 |
| 12. | If No give reasons (Multiple ticking options) | Not aware of the importance | 20 | 80 |
| | | Motivation and involvement | 19 | 76 |
| | | Lack of acceptance | 15 | 60 |
| | | Lack of space | 13 | 52 |
| | | Damage to building | 21 | 84 |
| | | Cost | 16 | 64 |

Source: Estimation based on field survey

From the above table it is observed that majority (60%) of the respondents are in the age group of 41-60 years. Nearly (63%) of the respondents are graduates. Less than (10%) are having education up to primary level. More than (80%) of the households are living in nuclear family. Nearly (65%) of the respondents are having 4-6 members in their family. In the survey it is observed that more than one half of the respondents are employed and among them (36%) are employed in the private sector. 11% of each of the respondents are professionals and engaged in business. Nearly (55%) of the respondents are earning an annual income of Rs.5 to 8 lakhs. 20% of the respondents are earning an income of more than Rs.20 lakhs per annum.

Major findings

- All the respondents are aware of rainwater harvesting. Sources of awareness of RWH may be media, advertisement and government regulation. 85% of the respondents came to know about RWH because of government regulation and programmes.
- All the respondents are having rainwater harvesting structures because of government norms and compulsion.
- More than 90% of the respondents are having surface runoff structure for RWH. Only 10% of the respondents are having the roof top RWH.
- Though 100% of the respondents are having RWH, nearly 60% of the respondents do not have it in effective working condition due to various reasons.
- It is observed that 80% of the respondents are not aware of the importance of RWH. Due to government compulsion they have installed the RWH structure.
- 76% of the respondents do not have motivation and involvement in installing RWH, 84% of the respondents believed that installment of RWH in their house may cause damage to the building, 65% opined that establishment of RWH structure involves high cost.
- Lack of space was also cited as the main reason for not having RWH structure as most of the houses are small i.e. maximum of four to five cents.
- Nearly 50% of the respondents are not in favor of RWH structures because they opined that it breeds mosquitoes because of sustained moisture conditions in and around the house.

Suggestions for effective rainwater harvesting

- Educational institutions should inculcate the importance of RWH among students by including it in the curriculum of schools and colleges.
- Governmental as well as Non-Governmental Organizations should organize Community Development Programme and Extension Programme regarding RWH.
- Seminars, conferences and workshops about RWH should be organized periodically to disseminate updated information.
- Street plays and promotional activity in shopping malls and parks can be organized.
- Celebrities from various fields can be utilized to popularize the importance of RWH.

Conclusion

Due to governments legislations in Tamil Nadu, almost all the houses are having RWH structure, but majority of them are not in an effective working condition due to lack of awareness, motivation and involvement. These elements are essential for the sustained RWH structures. By creating awareness regarding the importance of RWH among each and every citizen of the country together with government

legislation coupled with automatic monitoring and control systems could bring hundred percent successes in effective implementation of RWH.

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