



AN AWARENESS OF RAINWATER HARVESTING AMONG THE FARMERS IN ERODE DISTRICT - TAMIL NADU

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ABSTRACT

India is one of the developing country in the world. Above 50% of the people depends upon the agriculture in our country. Agriculture is the backbone of many developing countries especially in India. Water is one of the most important factor in agriculture and also other sectors. All over the world, water usages are increasing day by day, but awareness of water management for the people in the world are insufficient. "Awareness without action is worthless-McGraw" Testing and creation awareness on Rainwater Harvesting is the theme of this study. India is the leading user of groundwater in the world using more than a quarter of the global total. Fresh rainfall is not sufficient to refill the reservoirs underground water tables. Increasing urbanization and rapid increasing population are pulled to the world for more water requirement. India's annual rainfall condition is with in the top 6 countries in the world. But in our country did not conserve the sufficient rain water. Water struggles are the burning topics of the today's world. The struggles for water from street pipes to worldwide is today's situation. Water scarcity creates the personnel, Social and Economic problems. There is no alternative use for water. Cherrapunji which receives about 11,000 mm of rainfall annually suffers from serious shortage of drinking water. There is rain water not well-preserved but allowed to drain away. Thus it does not matter how much level of rain we get, if we don't capture or harvest it. According to Dr. APJ Abdul Kalam, Former President of India, The future war may be for the Water. Children and youngsters to be aware of water conservation techniques to avoid grave water crisis in future. People are forced to buy water in plastic bottles. Bottled water industry is worth nearly 10000 crore rupees and even big companies are involved in this bottling of water and making money. So, it is imperative that we ought to save Rainwater.

KEY WORDS: *Rain water, Farmers and awareness.*

INTRODUCTION

No life on earth can exist without water,
And the ceaseless flow of that water cannot exist
without rain.
- The Thirukural.

Rainwater harvesting is the process of augmenting the natural filtration of rainwater in to the underground formation by some artificial methods. "Conscious collection and storage of rainwater to cater to demands of water, for drinking, domestic purpose & irrigation is termed as Rainwater Harvesting. -S.K Kamra (1983). Simply Rainwater Harvesting is defined as the principle of collecting and using rainfall from a catchments surface. All over the world, 16 million tons of rainfall occurs every second. The world's average rainfall is around 850 mm. India's average rainfall is about 960 mm. Tamil Nadu average rain fall is around 995 mm. In the last three decades the rapid growth in number of ground water structures has been observed. This has lead to very huge withdrawal of groundwater for several uses of agricultural, industrial and other domestic requirements. This resource has become an important source of drinking water, food security and various needs for teeming millions of the state. It provides 70 percent of water for domestic use in rural areas and about 50 percent of water for urban and industrial areas in the nation. The important contribution made for Green Revolution and also as primary reliable source of irrigation during drought years has further strengthened the people's faith in usage of ground water as dependable source. The rapid and uncontrolled usage of ground water has also created several problems. The exhaustive ground water development in many parts of the country has resulted in reduction of ground water levels and availability of the resource. The original ground water quality too became its victim. Though, for the State as a whole the availability of ground water resources seems fairly comfortable but localized areas have shown the harmful effects of excessive ground water development. To keep sustainability of ground water resources artificial recharge to ground water is being practiced.

Central Ground Water Board started Artificial Recharge Studies during 8th five year Plan (1992-1997) which recharge studies in Maharashtra, Karnataka, Andhra Pradesh, Delhi, Kerala, Madhya Pradesh, Tamil Nadu, West Bengal, & Chandigarh were taken up. The recharge works were taken up as wide range declines were observed in the water level in the country. The studies were taken up with an objective to identify suitable artificial recharge structure in different hydro geological lands. The

studies have been continued during different five year plans till date. Ground water exploitation is inevitable in Urban areas. But the groundwater potential is getting reduced due to urbanization resulting in over exploitation. Hence, a strategy to implement the groundwater recharge, in a major way need to be launched with concerted efforts by various Governmental and Non-Governmental Agencies and Public at large to build up the water table and make the groundwater resource, a reliable and sustainable source for supplementing water supply needs of the urban dwellers.

RAIN WATER HARVESTING METHODS

There are three methods of harvesting rain water as given below:

1. Storing rain water for direct use

In place where the rains occur throughout the year, rain water can be stored in tanks. However, at places where rains are for 2 to 3 months, huge volume of storage tanks would have to be provided. In such places, it will be more appropriate to use rain water to recharge ground water aquifers rather than to go for storage. If the strata is impermeable, then storing rain water in storage tanks for direct use is a better method. Similarly, if the ground water is saline/unfit for human consumption or ground water table is very deep, this method of rain water harvesting is preferable.

2. Recharging ground water aquifers, from roof top run off

Rain water that is collected on the roof top of the building may be diverted by drain pipes to a filtration tank (forbore well, through settlement tank) from which it flows into the recharge well. The recharge well should preferably be shallower than the water table. This method of rain water harvesting is preferable in the areas where the rainfall occurs only for a short period in a year and water table is at a shallow depth.

3. Recharging ground water aquifers with runoff from ground area

The rain water that is collected from the open areas may be diverted by drain pipes to a recharge dug well / bore well through filter tanks. The abandoned borewell/dug well can be used cost effectively for this purpose.

OBJECTIVES OF THE STUDY

1. To find out the level of Awareness towards Rainwater Harvesting with respect to demographic and socio economic variables of the farmers in Erode District.
2. To analyze the level of Awareness towards Rainwater Harvesting among the farmers in Erode District.

METHODOLOGY

This study was used to primary data were collected from 242 farmers in the Erode District. Random sampling method was used to collect the data. This study used the statistical techniques like Mean, Standard Deviation, t-test and F-test for find out the level of awareness of rain water harvesting among the farmers in Erode district.

FINDINGS OF THE STUDY

This study was framed the following findings about the awareness of rain water harvesting among the farmers in Erode District.

Gender wise Awareness level

There is no significant difference in the Mean values on Awareness towards Rainwater Harvesting between the Male and Female farmers in Erode District.

Table: 1 Gender wise Awareness level of Rainwater Harvesting among the farmers in Erode District.

S.No	Gender	Number of Respondents	Mean	SD	't' value
1.	Male	132	71.45	6.023	0.470
2.	female	110	71.85	7.037	
Total		242	71.64	6.493	

Source: Primary survey *Not significant at 0.05 level

From the table: 1 it is seen that Mean and SD of the total sample were 71.64 and 6.493. We are understood that the above table: 1 't'-value 0.470 is not significant at 0.05 level. It is understood from the results that there is no significant difference among the farmers with respect to their Gender. Male and Female farmers are having similar level of Awareness towards

Rainwater Harvesting. Hence the framed null hypothesis is accepted.

Family wise Awareness level

There is no significant difference in the Mean values on Awareness towards Rainwater Harvesting between the joint family and Nuclear family of the farmers in Erode District.

Table: 2 Family wise Awareness level of Rainwater harvesting among the farmers in Erode District.

S.No	Type of Family	Number of Respondents	Mean	SD	't' value
1.	Joint Family	55	69.85	4.943	2.785
2.	Nuclear Family	187	72.18	6.802	
Total		242	71.64	6.493	

Source: Primary survey *significant at 0.05 level

From the above Table: 2 it is seen that the 't'-value 2.785 is significant at 0.05 level. It is understood from the results that there is a significant difference between the joint family and Nuclear family of the farmers in Erode District. Those farmers are nuclear family are having more level of Awareness than the

joint family farmers. Hence the framed null hypothesis is rejected.

Residential Area wise Awareness level

There is no significant difference in the Mean values on Awareness towards Rainwater Harvesting between the Rural and Urban farmers in Erode District.

Table: 3 Residential Area wise Awareness level of Rainwater Harvesting among the farmers in Erode District.

S.No	Residential Area	Number of Respondents	Mean	SD	't' value
1.	Rural	207	71.71	6.724	0.496
2.	Urban	35	71.23	4.971	
Total		242	71.64	6.493	

Source: Primary survey *Not significant at 0.05 level

From the above Table: 3 it is seen that the 't'-value 0.496 is not significant at 0.05 level. It is understood from the results that there is no significant difference among farmers with respect to their Residential place. Hence the framed null hypothesis is accepted.

Age Group wise Awareness level

There is no significant difference in the Mean values on Awareness towards Rainwater Harvesting on their Age Group of the farmers in Erode District.

Table: 4 Age Group wise Awareness level of Rainwater Harvesting among the farmers in Erode District.

S.No	Age Group	Number of Respondents	Mean	SD	'F' value	Sig.
1.	19-40	85	70.31	7.022	3.148	0.045
2.	41-60	74	72.81	5.636		
3.	Above 60	83	71.95	6.473		
Total		242	71.64	6.496		

Source: Primary survey *Significant at 0.05 level

From the above Table: 4 it is seen that the F value 3.148 is significant at 0.05 level. It is understood from the results that there is a significant difference among the farmers towards the Awareness of Rainwater Harvesting. Hence the framed null hypothesis is rejected.

Educational Qualification wise Awareness level

There is no significant difference in the Mean values on Awareness towards Rainwater Harvesting between the education level varies to College education, School level education and Illiterates of the farmers in Erode District

Table: 5 Educational Qualification wise Awareness level of Rainwater Harvesting among the farmers in Erode District.

S.No	Educational Qualification	Number of Respondents	Mean	SD	'F' value	Sig.
1.	Illiterate	26	71.88	5.680	0.585	0.558
2.	School	129	71.99	6.640		
3.	College	87	71.03	6.524		
Total		242	71.64	6.493		

Source: Primary survey *Not significant at 0.05 level

From the above Table: 5 it is seen that the F value 0.585 is not significant at 0.05 level. It is understood from the results that there is no significant difference among the farmers Education level is different. Hence the framed null hypothesis is accepted.

CONCLUSION

The present study has investigated the rain water harvesting awareness among the farmers in Erode district. It is found that the farmers in Erode District have adequate Awareness on Rain water harvesting. Our mission should be conservation of water. We cannot produce water but save it and protect our future. Rain Water Harvesting is today's need of the whole world. So we should come forward and take steps to promote it so that our future generation can enjoy the natural resources. It is the urgency of Rainwater Harvesting, hence there is an urgent need to develop more awareness about such matters, amongst the farmers, students in schools and colleges, and general public.

SUGGESTIONS

1. Rainwater Harvesting museum is to be opened for the public, showing the importance of rainwater harvesting by displaying different technologies as well as cultures.
2. Both central and state governments must arrange seminars, workshops and group discussions about the rain water harvesting by inviting Scientists, experts, NGOs in this

field. The best way to inform the current generation is to use mass media, such as TV, newspapers, and the internet by using campaign of celebrities like film actors, Sports persons and etc.

3. The Government should be announce tax free and loans to Rainwater Harvesting equipment's.
4. The installed Rainwater Harvesting structures should be maintained properly and special unit to be formed by the government to monitor and certify that.
5. Monthly a day to be named for Rainwater Harvesting awareness day to particular area and best maintenance, management of Rainwater harvest structure should be appreciated by the Local government bodies.

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