

# Sustainability-Based Asset Management (A study with special reference to Water Usage in Shoranur Municipality)

**REKHA.P.T.**

*Research scholar*

*Bharatamata college*

*Thrikkakkara*

rekhapt77@gmail.com

## **Abstract—**

Water resource management is the activity of planning, developing, distributing and managing the optimum use of water resources. It is a sub-set of water cycle management. Ideally, water resource management planning has regard to all the competing demands for water and seeks to allocate water on an equitable basis to satisfy all uses and demands. As with other resource management, this is rarely possible in practice. Shoranur' is named in revenue records as 'Chiramannur/Cheramannur' and in railway records 'Cherumannur'. Chiramannur was transformed into Shoranur. This name Chiramannur might have derived from the relation of this place to Bharathapuzha. Although Bharathapuzha is a major source of water for people of Shoranur but this place is in the stage of becoming drought in the coming future. So this study was aimed to know the management of water resources by the households of Shoranur.

**Keywords—** Water resource management, households, Shoranur Municipality, water assets.

## I. INTRODUCTION

Water resource management is the activity of planning, developing, distributing and managing the optimum use of water resources. It is a sub-set of water cycle management. Ideally, water resource management planning has regard to all the competing demands for water and seeks to allocate water on an equitable basis to satisfy all uses and demands. As with other resource management, this is rarely possible in practice.

Shoranur' is named in revenue records as 'Chiramannur/Cheramannur' and in railway records 'Cherumannur'. Chiramannur was transformed into Shoranur. This name Chiramannur might have derived from the relation of this place to Bharathapuzha. Although Bharathapuzha is a major source of water for people of Shoranur but this place is in the stage of becoming drought in the coming future. So this study was aimed to know the management of water resources in the households of Shoranur. There are so many threats and management issues faced by our state such as Large-scale deforestation in the Western Ghats and introduction of plantation crops in highlands replacing the natural vegetation reduced the storage capacity of soil and resulted in surface soil erosion in watersheds and sedimentation in rivers. This has affected summer flow in rivers and some perennial rivers and rivulets have become seasonal in the last few decades due to large scale land cover changes. Sand quarrying in rivers and watersheds are killing the rivers. Such activities lead to bank erosion, lowering of water table and create several environmental problems. Degradation of Water Resources All rivers in Kerala are highly polluted due to inflow of untreated domestic, industrial wastes and agriculture runoff .Land Reclamation and Construction: Sand filling of ponds, farmlands, wetlands and other water bodies' affects natural

water flow and groundwater recharge. There is recent news in such a way that “Water from Bharathapuzha poses health hazard in Kerala” in “THE HINDU” Daily news paper. The all-time high coliform count recorded in the once mighty Bharathapuzha, which continues to remain a major drinking water source for Palakkad, Malappuram, and Thrissur districts, has evoked widespread concern. Already facing an imminent death largely because of massive deforestation, encroachments, chemical contamination, dumping of waste, and unscientific sewage disposal, the river is now posing severe health hazard to people living in its basin areas.

The situation is quite alarming. The count is high at a time when the river is reduced to a trickle because of the onset of summer months. The count would increase manifold if allowed unchecked during rainy months. The situation demands better steps to properly treat sewage in areas close to the river,” said Shoranur-based environmental activist Vindo Nambiar.

## II. STATEMENT OF THE PROBLEM

Shoranur Municipality is an outstanding spot under Ottapalam Taluk and Palakkad area. There are all out 33 wards under Shoranur Municipality and the complete number of populace is 43528 as per the census made on 2011. Every one of the families depends directly or in a roundabout way on Bharathapuzha ( the main real wellspring of water for families of Shoranur) for their ordinary water utilization. What's more, Bharathapuzha is in the phase of rotting with the goal that the present examination intends to know the water asset use and its management by the family units of Shoranur.

## III. OBJECTIVES OF THE STUDY

1. To know the available water resources in Shoranur Municipality.
2. To study the water resource management practices adopted by the households of Shoranur municipality

3. To know the usage level of water resources among households in Shoranur.

## IV. REVIEW OF LITERATURE

Various papers recently checked on water assets management. McKinney et al. (1999) investigated demonstrating of water assets management at the bowl level, Mayer and Muñoz-Hernandez (2009) checked on coordinated water assets advancement models, Hajkovicz and Collins (2007) looked into numerous criteria examination for water asset arranging and the executives, Rani and Moreira (2010) explored different streamlining procedures utilized in water assets the executives displaying for supply framework task. Other Studies made on Water Resources Sustainability, in "Water Resources in the Next Decade", AWRA Water Resources Impact Smith, E. T. (2010). What is Sustainability? By Smith, E. T. (2008). There are likewise Case Studies in Integrated Water Resources Management: From Local Stewardship to National Vision November 2012 and Another examination on Water Resources Development and Management in India - An Overview by U. N. Panjiar Secretary to the Government of India Ministry of Water Resources .And additionally an investigation done on Integrated Water Resources Management: Is It Working? ASIT K. BISWAS Third World Center for Water Management, Atizapa'n, Mexico.

## V. METHODOLOGY USED

Both Primary and Secondary data are collected for this study. Primary data are collected by using a structured questionnaire and secondary data are collected from various journals, news papers, previous reports and studies, websites etc. The essential information were gathered from 30 respondents has a place with ‘Ward number 30’ since it is the most languishing ward over water supply in light of the fact that the ward arranged in a bumpy zone when contrasted with different wards. For the examination advantageous inspecting technique is utilized.

## VI. DATA ANALYSIS AND INTERPRETATION

Data Analysis was done by using SPSS 20.

**Table 1: Demographic variables of the respondents:**

Demographic variables		Frequency	Percent	Cumulative Percent
Age of the respondents	below 30	2	6.7	6.7
	30-40	17	56.7	63.3
	40-50	4	13.3	76.7
	above 50	7	23.3	100.0
	Total	30	100.0	
Total members of the family	below 3	4	13.3	13.3
	3-6	25	83.3	96.7
	above 6	1	3.3	100.0
	Total	30	100.0	
Housing Ownership	owned house	24	80.0	80.0
	rental house	4	13.3	93.3
	others	2	6.7	100.0
	Total	30	100.0	
Monthly family income	below 10000	2	6.7	6.7
	10000-20000	12	40.0	46.7
	20000-40000	14	46.7	93.3
	above 40000	2	6.7	100.0
	Total	30	100.0	

It was obvious from the story that over 50% of the respondents have a place with thirty to forty age categories. 83% of the respondents have a minimum of three family members and a maximum of six family members. Furthermore, 80% of the respondents lived in their own homes and 13.3% of the respondents lived in rental houses. 40% of the respondents month to month family pay has a place with

10000-20000 classification and 46% of the respondents have month to month family pay up to 40000.

**Table 2: Source of water supply**

	Frequency	Percent	Cumulative Percent
municipal tap	20	66.7	66.7
well	10	33.3	100.0
Total	30	100.0	

It is obvious from the above table is that 66.7% of the respondents depend municipal water source for their daily requirements. Furthermore, 33.3% of the respondents have their very own well for their water necessities.

**Table 3: Bathing frequency**

	Frequency	Percent	Cumulative Percent
many times a day	1	3.3	3.3
once a day	15	50.0	53.3
twice a day	14	46.7	100.0
Total	30	100.0	

50% of the respondents washing recurrence is once in multi day and 46.7% of the respondents washing recurrence is two times per day. Also, just 3.3% reacts that they go to shower for all the time.

**Table 4: Laundry frequency**

	Frequency	Percent	Cumulative Percent
every day	25	83.3	83.3
once in three days	4	13.3	96.7
once a week	1	3.3	100.0
Total	30	100.0	

83.3% of the respondents have regular clothing recurrence and 13.3% of the respondents have once in three days clothing recurrence

**Table 5: Source of drinking water**

	Frequency	Percent	Cumulative Percent
municipality pipe	12	40.0	40.0
well	18	60.0	100.0
Total	30	100.0	

Among the all out respondents 60% of the respondents rely upon 'well' water for their drinking purposes. Also, it is educated from the study that these respondents not have faith in the immaculateness of region supply of water. What's more, 40% of the respondents depends municipal tap for their drinking water.

**Table 6: Drinking water consumption**

	Frequency	Percent	Cumulative Percent
10-20 litres	15	50.0	50.0
above 20 litres	15	50.0	100.0
Total	30	100.0	

Half of the respondents had drinking water utilization of over 20 litres per day and the other portion of the respondents had drinking water utilization of 10 to 20 litres for each day

**Table 7: Current water supply service**

	Frequency	Percent	Cumulative Percent
excellent	2	6.7	6.7
very good	3	10.0	16.7
good	8	26.7	43.3
poor	13	43.3	86.7
very bad	4	13.3	100.0

Total	30	100.0	
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It is obvious from the above table is that 43.3% of the respondents conclusion that ebb and flow water supply of Shoranur municipality was poor and 13.3% reacts that the city water supply was so awful in light of the fact that water lack going on for a few days. 10% of the respondents said that the water supply was great and 6.7% reacts that it was brilliant.

**Table 8: Timely maintenance**

	Frequency	Percent	Cumulative Percent
yes	28	93.3	93.3
no	2	6.7	100.0
Total	30	100.0	

The fact clear from the above table is that 93.3% of the respondents had opine that there is timely maintenance of water supply services by Shoranur municipal authorities. Only 6.7% opine that there is no timely maintenance.

**Table 9: Water reading**

	Frequency	Percent	Cumulative Percent
once a month	4	13.3	13.3
twice a month	6	20.0	33.3
once in two months	12	40.0	73.3
No idea	8	26.7	100.0
Total	30	100.0	

40% of the respondents opine that water perusing was done once in two months by the experts 20% of the respondents had conclusion that there is water perusing two times every month. And 26.7% responds that they have no idea about water reading and 13.3% opine that there is once a month water reading.

**Table 10: More usage of water**

	Frequency	Percent	Cumulative Percent
bath	25	83.3	83.3
laundry	3	10.0	93.3
others	2	6.7	100.0
Total	30	100.0	

It is revealed from the study that 83.3% of the respondents' water consumption constitutes for bathing purposes. 10% of the respondents require more water for laundry purposes.

**Table 11: Water shortage lasting**

	Frequency	Percent	Cumulative Percent
several hours	4	13.3	13.3
several days	20	66.7	80.0
do not know	6	20.0	100.0
Total	30	100.0	

It was revealed from the study that water shortage exists for several days and the respondents stored water for these emergency situations.

**Table 12: Water saving measures**

	Frequency	Percent	Cumulative Percent
yes	1	3.3	3.3
no	24	80.0	83.3
do not know	5	16.7	100.0
Total	30	100.0	

Among the total respondents only 3% take water saving measures, 80% of the respondents not take any water

saving measures and 5% answered 'did not know' to that question.

## VII CONCLUSION AND SUGGESTIONS

It was uncovered from the investigation that the utilization of water among families are more and will in general increment in the coming future and the majority of the families don't have a clue about the water sparing measures and if this circumstance is going on it will be a hazardous circumstance of shortage of water for the fundamental use of the family units of Shoranur municipality. So it will be proposed that the Shoranur Municipal Authorities and Water Authorities take more consideration to the conservation of our accessible water assets and in the meantime they can give water sparing introduction classes to the family units.

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