

Urban Realities of Water and Sanitation: A Household Study in Tambaram City Municipal Corporation

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Abstract—According to global standards, access to safe water, sanitation and hygiene systems remains a major concern for safe and healthy living. Water and sanitation services have been acknowledged as basic human rights in UN Sustainable Development Goal 6 to ensure that all people will have equal access to both water and sanitation services. While national and international initiatives and commitments strive to improve the accessibility to water and sanitation in developing countries by focusing on urban and rural areas, many tend to neglect the peri-urban context.

Many studies reveal that there is a lack of awareness of WASH in peri-urban areas of Tambaram City. The researcher intends to focus on the socio-cultural factors involved in water and sanitation, hygiene and human behaviour. The purpose of this study is to examine whether safe drinking water supply, sanitation and hygiene practices are ensured in Peri-urban Tambaram City Municipal Corporation. This study uses a cross-sectional study design and for data collection, Google Forms were circulated to households of Tambaram City Municipal Corporation.

Index Terms—Water, Sanitation, Hygiene, Peri-urban, Knowledge, Awareness

I. INTRODUCTION

Clean water, sanitation and hygiene are some of the basic things to live a safer and healthier life. As per the 2011 survey, 48.8% of people in Tamil Nadu live in urban areas. At present, the majority of the people who live for livelihood development choose urban and peri-urban areas for safe living. The development of the

state has various development processes for safe living in peri-urban. Structural development of the peri-urban areas has been focused on by the government in various ways. International and National organisations like WHO & UNICEF have framed the Sustainable Development Goals (SDGs) for the better living of the people.¹ The basic fundamental rights and needs are to be focused on in the SDGs. SDG 6 has emphasized Water, Sanitation & Hygiene (WASH) practices worldwide. (UNICEF, 2020)

The WASH project, one of WHO's 2030 Agenda endeavours, was established with the purpose of "ensuring (sic) that all people have access to safe drinking water and sanitation." With water availability and long-term water management by 2030, "sanitation for all" will be a reality. A previous initiative, the Millennium Development Goals, sometimes known as MDGs, was missed.²

The major sanitation effort of the Indian government, the Swachh Bharat Mission, or Clean India campaign, intends to accomplish Mahatma Gandhi's ambition of a "Clean India" by October 2, 2019, the 150th anniversary of his birth. And the hard work has already yielded results. Gujarat and Andhra Pradesh, two of India's 29 states, have been certified OPF (Open defecation-free) as of July 2017. Is it, however, sufficient? In India, over 569 million people (almost half of the population) still defecate in the open, and more than 500 children under the age of five are projected to die from diarrhoea in a single day. (Chu, 2020)

¹ Ashish Joshi, S. P. (2014). Water and Sanitation Hygiene Knowledge Attitude Practice in Urban slum settings. *Global journal of health Science*, 23-34.

² Chu, J. Q. (2020). A study on water, sanitation and hygiene practices among the urban . *International Journal of Community Medicine and Public Health*, 2567-2573.

Tamil Nadu Urban Sanitation Support Programme (TNUSSP)

Tamil Nadu Urban Sanitation Programme is based in Chennai; it has created comic strips with animated characters to teach the communities and children about better health, water, sanitation and hygiene (WASH) practices. (News18, 2022)

State Investment Plan to Scale FSM Treatment Solutions

To aid in the implementation of the Operative Guidelines, a State Investment Plan (SIP) was created. The plan, which largely focused on faecal sludge management (FSM) treatment facilities, assessed the investment required to guarantee comprehensive sanitation coverage across 663 Urban Local Bodies (ULBs) in a phased way.

Co-Treatment

One of the primary methods in which the State plans to meet its FSM targets is to maximise the use of unused capacity in sewage treatment plants (STPs) through co-treatment. ULBs are being directed to increase access to decanting facilities and to adopt and institutionalise testing processes in the 63 STPs that already exist.

Regulated De-sludging Model

Ensure the safe collection, processing, and transportation of FS. TNUSSP has advocated for a regulated de-sludging model in the state and produced a Standard License Agreement that aims to regulate and expedite the collection and conveyance process throughout the state³.

Benefits of having clean water, sanitation and hygiene

- It prevents from being able to avoid exposure to countless unwanted diseases.
- Sources of clean water and hygiene practices in household communities are much wider
- WASH practices help in the development of health- and environment-related issues.

- Clean water and sanitation and hygiene practices improve many aspects of people's lives.
- Sanitation practices enhance a cleaner and safer city life for the people of peri-urban Tamil Nadu.⁴

II. OBJECTIVES OF THE STUDY

- To identify if the people around peri-urban areas are aware of the water, sanitation and hygiene practices issued by the government.
- To examine the sustainability and efficiency of the safe drinking water supply in peri-urban Tambaram City Municipal Corporation.

III. REVIEW OF LITERATURE

Warner and Laugeri (1991) indicate that a strategy of community- based development resulted in an unprecedented move towards closer coordination of government and external support agencies, in turn facilitating improved practices for planning, monitoring and evaluation. Community management of services emerged as the most viable solution to serve poor settlements where incentives do not exist for the public or private sector to provide affordable and sustainable services.

Kattz and Sara's study found that employing a demand- responsive approach at the community level significantly increases the likelihood of water system sustainability. According to Van Damme, the need to put people at the centre of action in water and sanitation is the main lesson and reflects the imperative for development to be a process driven by those with most to gain from and affected by the development.

IV. RESEARCH METHODOLOGY

Study design:

The cross-sectional community-based study was conducted in Tambaram City Municipal Corporation, Chennai, Tamil Nadu, India. The cross-sectional study was conducted in four zones, such as Pallavaram,

³ Tamil Nadu Urban Sanitation Support Programme. (2011). Retrieved from TNUSSP: https://muzhusugadharam.co.in/wp-content/uploads/2021/03/TNUSSP_Press-Kit_Revised.pdf

⁴ Monson, P. (2020, August 20). *Myanmar Times*. Retrieved from [mmmtimes.com: https://www.mmmtimes.com/news/top-ten-benefits-clean-water.html](https://www.mmmtimes.com/news/top-ten-benefits-clean-water.html)

Anakaputhur, Chromepet and Tambaram zones of Tambaram City Municipal Corporation.

Samples:

To identify the water and sanitation practices, a random sampling method was adopted for the study, with a sample size of 50, which was collected from Tambaram City Municipal Corporation and analysed. A semi-structured questionnaire adapted from the basic WASH-related practices, consisting of 14 questions, was used for this study.

Information was gathered about the participants' attitudes toward clean water treatment and sanitation

F Test	Sig.	t	df	One-Sided p	Two-Sided p
1.182	.287	.446	26	.330	.660
—	—	.435	21.449	.334	.668

practices. Water safety, effects of unsafe drinking water on health, and the practices that were adopted to make water safe are the related topics included in this study. Various information's like availability of toilet facilities and waste disposal treatment, is also discussed for better understanding. More information was gathered through open-ended questions about their satisfaction and suggestions towards existing clean water supply and sanitation facilities for a cleaner and safer society.

Hypothesis

H0: There is no significant difference among people living in the Tambaram locality in getting a clean water supply.

H1: There is a significant difference among people living in the Tambaram locality in getting a clean water supply.

Statistical analysis

T Test Analysis

T Test analysis					
		N	Mean	Std. Deviation	Std. Error Mean

Do you have a sufficient clean water supply at your locality	Yes	12	1.83	.937	.271
	No	16	1.69	.793	.198

Interpretation:

$$P = 0.660 > 0.05$$

H0 is accepted.

Based on the above analysis, it is inferred that the t-test ($t=0.446$, $df= 26$) was not significant. ($p =0.660$) There is no significant difference between people living in the Tambaram locality in terms of getting a clean and sufficient water supply. This shows that people living in the Tambaram locality are getting a clean and sufficient water supply.

Findings and suggestions of the study

Some of the major findings of the study are mentioned below.

Figure 1

Locality
50 responses

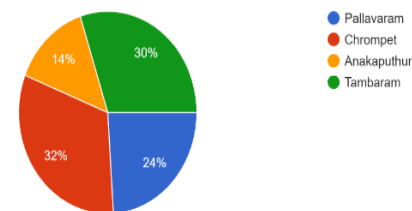


Figure 1 states that, out of the 4 zones in Tambaram City Municipal Corporation, Chromepet has the highest percentage of households with good respondents and WASH status (32%).

Figure 2

Awareness about the steps government has taken towards sanitation?

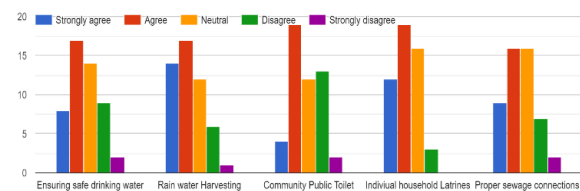


Figure 2 states that awareness about the steps the government has taken towards sanitation was asked; the results are given below:

- The majority of them agreed that they have safe drinking water awareness.

- Most of them agreed that they have awareness about rainwater harvesting.
- The majority of them agreed that they have awareness and have community public toilet facilities.
- Mostly every house has individual household latrines and is also aware of hygiene practices.
- Proper sewage conditions are less agreed and most of them are neutral about the awareness.

Figure 3

Do you think that the water you consume is clean and safe
50 responses

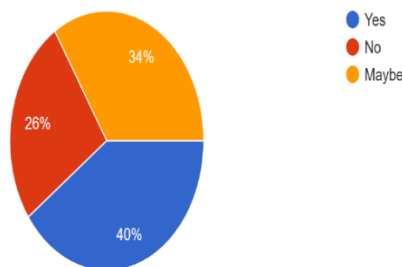
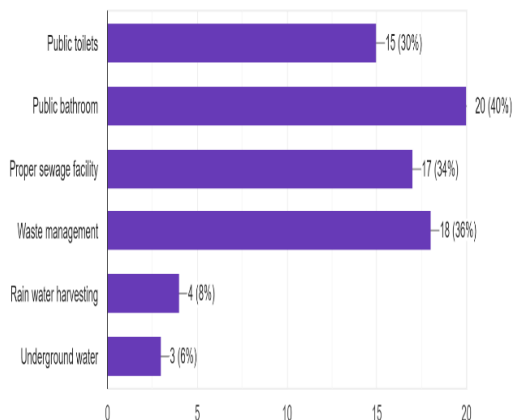


Figure 3 states that majority (40%) of the respondents think that the water they consume is clean and safe.

Figure 4

Sanitation & Hygiene facilities available at your locality
50 responses



The figure 4 states that the majority of the respondents feels proper sewage facility is not maintained compared to public toilets and bathrooms.

Figure 5

Are you satisfied with steps government is taking towards Water, Sanitation & Hygiene
50 responses

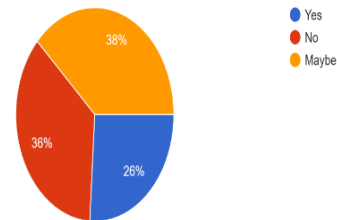


Figure 5 states that the majority of them are not satisfied with the steps taken towards water, sanitation & hygiene by the Government.

V. RESULTS

- The majority of the study participants belonged to the age group of 18-30 years (58%). The majority of the study participants who were interviewed were women (52%).
- It was found that all the zones have public toilet facility, but it was not commonly used by the locals.

VI. SUGGESTIONS

- Sewage management should be improved for safer sanitation and hygiene practices.
- Most of the households do not have proper sewage connections in and around Anakaputhur and Pallavaram zones.
- Sewage management should be maintained and should be available to all the households in Tambaram City Municipal Corporation.
- Availability of municipal water had a significant association with WASH practices
- Awareness about water management, sanitation & hygiene is better compared to rural areas. But the respondents feel Policy implementation is quite ineffective in peri-urban areas of Tamil Nadu, especially in Tambaram City Municipal Corporation.

VII. CONCLUSION

The researcher concludes that water and sanitation practices in households in Tambaram City Municipal Corporation get a clean water supply, but the structural development and storage of sewage treatment are not

maintained, especially in Anakaputhur and Pallavaram zones of Tambaram Municipal City Corporation. The researcher found that there is no significant difference amidst people living in Tambaram locality in getting a clean water supply. The government should enhance the structural development to provide a clean water supply and also work efficiently on proper sewage management and hygiene practices for the people living in Tambaram City.

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