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Awareness about Tap Water Leakage from Marathwada, India

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Abstract: ***This study was conducted in the Marathwada region it aims to determine the awareness of water use through tap at residential, Semi-Govt. Hostels, Govt. Hostels, College premises, Govt. Offices, Govt. Hostels and Railway stations and Railway coaches. In the context of this study a collect the samples of water from leak taps. Therefore this paper explores the pattern of tap water consumption in Marathwada area, and to improve the understanding of how use the standard appliances for prevention the leakage.***

Key words: Awareness, appliances, behavior, community, water consumption.

I. INTRODUCTION

Marathwada is water scarcity region from last some decades. Water is the basis of all life on Earth. Humans need water to drink, cook food. Water also provides recreational opportunities like swimming, and fishing. Animals that live on land and those that live in lakes, ponds, and oceans also need clean water to survive and thrive Bill Randolf et. al,.(2008). The demand of safe drinking water is major issue of developing countries, poor quality of drinking water is a major health hazard and most fatal diseases are associated with it especially among the children. In India, as a result of development, the demand for water is increasing both in urban and rural areas. This may increase tensions and disputes over sharing of water resources. For water demand management, it is crucial to know the details of actual water use on a household level. Freshwater resources are subject to enormous impacts from climate-change, growing per-capita water use in developed and developing countries. Drought is impact factor for resources of fresh water Ellis Adjei Adams (2014). In some situations, decreasing the volume of water used is important while in situations increasing sanitary hygiene. Several policy are influence unnecessary water use but awareness make it control and changes in behavior of users, social norms and attitude of water use. W.Schaap *et, al.*,(2001). The awareness raising the understood about water use. One party is going to teach another party so that second party becomes aware. Results of the study revealed that the daily average of water consumption for per person is 117 liters at residential area. At Govt. Office 10-15 liters per person, at semi Govt. Hostel and Govt. Hostel water use is 90 liters per person. College premises water use per person 2-3 lit, laboratory 10 lit per laboratory. At railway station water use per person is 10-15 litters. Omvir Singh and *et. al,*. (2013). Awareness about drinking quality water is necessary to all community which water is supplied through water supply agency WHO (2004). For water conservation have need of the technological advancement of water-using appliances in order to make them more water efficient. Since user interaction with water-using appliances is a major influence on the amount of water used by the appliance, which is itself influenced by the habits, rituals, and expectations of water use, more research is needed that focuses on the user D.A. Kelly *et, al,*.(2015).

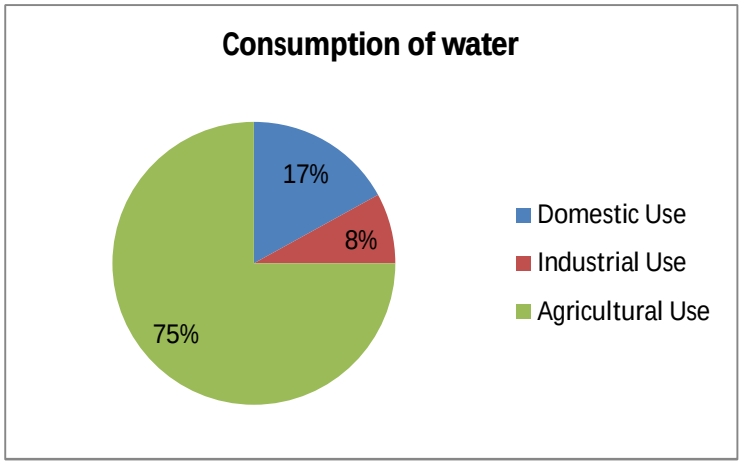

Fig 1: Water consumption sectors around in Marathwada Gleick et al. (2011).

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Fig 2: Water Leakage after tap is closed.

Fig 3: Water Leakage after tap is closed.

II. MATERIAL AND METHODS

Data for this current study was gathered using a water use survey of where the tap is leakage. Water was collect from leakage tap in 10 minutes in plastic container and these containers water is count by measuring cylinder in milliliter at laboratory.

III. RESULT AND DISCUSSION

Table 1: Collection of water from Govt. Hospital

Sample / Quantity	milliliters/ 10 Min	milliliters / 1 Hour	milliliters / 1 Day	milliliters / 30 days	milliliters / 1 Year	Liters / 1 Year
Tap 1	127	762	18288	548640	6675120	6675.12
Tap 2	98	588	14112	423360	5150880	5150.88
Tap 3	62	372	8928	267840	3258720	3258.72
Tap 4	79	474	11376	341280	4152240	4152.24
Tap 5	35	210	5040	151200	1839600	1839.6

At Govt. Hospital per human requirement of water is 10-15 lit. per person where water is lost 21076.56 lit. per year through 5 leak taps this may be used for 35 persons.

Table 2: Collection of water from Railway Station

Sample / Quantity	milliliters/ 10 Min	milliliters / 1 Hour	milliliters / 1 Day	milliliters / 30 days	milliliters / 1 Year	Liters / 1 Year
Tap 1	97	582	13968	419040	5098320	5098.32
Tap 2	83	498	11952	358560	4362480	4362.48
Tap 3	61	366	8784	263520	3206160	3206.16
Tap 4	86	516	12384	371520	4520160	4520.16
Tap 5	58	348	8352	250560	3048480	3048.48

At railway station per human requirement of water is 10-15 lit per day. Where water is lost 20235.6 lit through 5 leak taps per year, this may be used for 35 persons.

Table 3: Collection of water from Semi Govt. Hostel

Sample / Quantity	milliliters/ 10 Min	milliliters / 1 Hour	milliliters / 1 Day	milliliters / 30 days	milliliters / 1 Year	Liters/ 1 Year
Tap 1	195	1170	28080	842400	10249200	10249.2
Tap 2	82	492	11808	354240	4309920	4309.92
Tap 3	90	540	12960	388800	4730400	4730.4
Tap 4	82.5	495	11880	356400	4336200	4336.2
Tap 5	1.5	9	216	6480	78840	78.84

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At semi Govt. hostel per human requirement of water is 90 lit per day. Where water is lost 23704.6 lit. through 5 leak taps per year, this may be used for 35 persons.

Table 4: Collection of water from Govt. Hostel

Sample / Quantity	milliliters/ 10 Min	milliliters / 1 Hour	milliliters / 1 Day	milliliters / 30 days	milliliters / 1 Year	Liters / 1 Year
Tap 1	140	840	20160	604800	7358400	7358.4
Tap 2	110	660	15840	475200	5781600	5781.6
Tap 3	90	540	12960	388800	4730400	4730.4
Tap 4	87	522	12528	375840	4572720	4572.72
Tap 5	92	552	13248	397440	4835520	4835.52

At Govt. hostel per human requirement of water is 90 lit per day. Where water is lost 27278.6 lit. through 5 leak taps per year, this may be used for 35 persons.

Table 5: Collection of water from Govt. Office

Sample / Quantity	milliliters/ 10 Min	milliliters / 1 Hour	milliliters / 1 Day	milliliters / 30 days	milliliters / 1 Year	Liters / 1 Year
Tap 1	120	720	17280	518400	6307200	6307.2
Tap 2	60	360	8640	259200	3153600	3153.6
Tap 3	40	240	5760	172800	2102400	2102.4
Tap 4	65	390	9360	280800	3416400	3416.4
Tap 5	86	516	12384	371520	4520160	4520.16

At Govt. office per human requirement of water is 10-15 lit per day. Where water is lost 19499.8 lit. through 5 leak taps per year, this may be used for 35 persons..

Table 6: Collection of water from College Premises

Sample / Quantity	milliliters/ 10 Min	milliliters / 1 Hour	milliliters / 1 Day	milliliters / 30 days	milliliters / 1 Year	Liters / 1 Year
Tap 1	75	450	10800	324000	3942000	3942
Tap 2	55	330	7920	237600	2890800	2890.8
Tap 3	65	390	9360	280800	3416400	3416.4
Tap 4	110	660	15840	475200	5781600	5781.6
Tap 5	68	408	9792	293760	3574080	3574.08

At College premises per human requirement of water is 2-3 lit per day. Where water is lost 19604.9 lit. through 5 leak taps per year, this may be used for 35 persons.

Table **7**: Collection of water from Residential Houses

Sample / Quantity	milliliters/ 10 Min	milliliters / 1 Hour	milliliters / 1 Day	milliliters / 30 days	milliliters / 1 Year	Liters / 1 Year
Tap 1	18	108	2592	77760	946080	946.08
Tap 2	12	72	1728	51840	630720	630.72
Tap 3	14	84	2016	60480	735840	735.84
Tap 4	16	96	2304	69120	840960	840.96
Tap 5	20	120	2880	86400	1051200	1051.2

At Residential Houses per human requirement of water is 117 lit per day. Where water is lost 4204.8 lit. through 5 leak taps per year, this may be used for 35 persons.

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IV. CONCLUSION

All resulted seven sampling stations are lost water through 5 leak taps 135605 lit. per year this is supplied through Water supply Department from reservoir near about 70 to 80 km away from city by using 500 HP electric pump. The pump is operated by electricity at rate of 746 watt per one HP per one hour . The charge of 746 watt is 6 Indian rupees. Institution and residential people not aware about electric lost this used in another place.

V. SUGGESTIONS

A. Tap fully turn off when not in use.
B. Check periodic tap leakage.
C. Install water tap more efficient fixtures.
D. Keep away taps from kids.
E. Stick bills near tap about water awareness.

VI. ACKNOWLEDGEMENT

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REFERENCES

[1] Bill Randolph and Patrick Troy (2008) was studied in Attitudes to conservation and water consumption Jou. environmental science & policy 11 (2008) pp: 441–455.
[2] D.A. Kelly (1) and D. Fong (2) was studied on Water conservation: the implications of user awareness, attitude, and behavior Research Gate, conference paper, Aug 2015.
[3] Ellis Adjei Adams (2014) was studied on Behavioral Attitudes towards Water conservation and Re-use among the United States Public J. of Resources and Environment 2014, 4(3): pp: 162-167.
[4] Gleick, P.H., Allen, L., Cohen, M.J., Cooley, H., Christian-Smith, J., Heberger, M., Morrison, J., Palaniappan, M. and Schulte, P. (2011) The World's Water Volume 7: The Biennial Report on Freshwater Resources, Washington: Island Press.
[5] Omvir Singh and Sushila Turkiya (2013) was studied about A survey of household domestic water consumption patterns in rural semi-arid village, India. Geo Journal October 2013, Volume 78, Issue 5, pp 777–790.
[6] WHO (2004). Guidelines for drinking water quality, 3rd ed. Geneva, World Health Organization.

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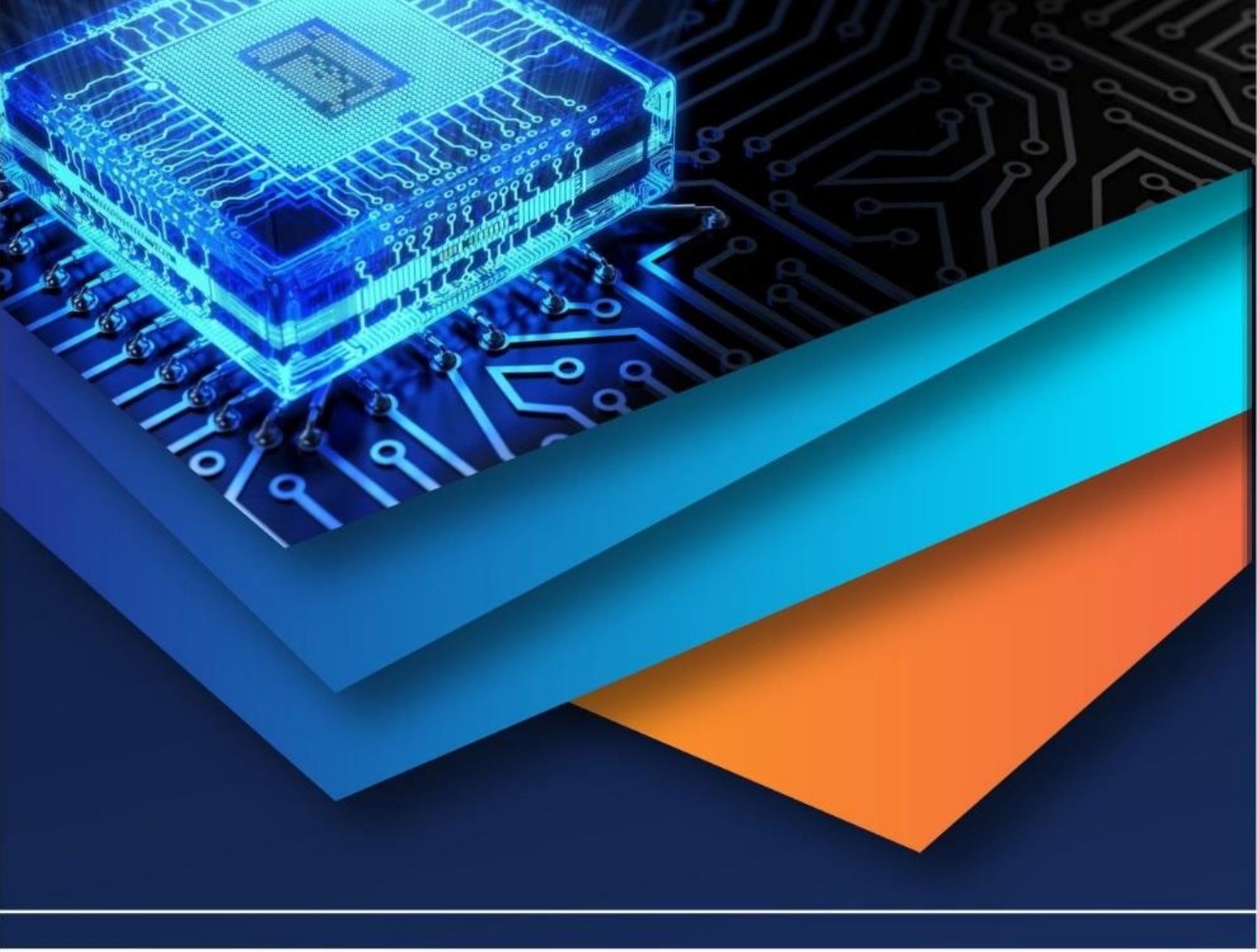

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