

A Study of Water Use Habits and Influencing Factors among the Population of Faisalabad, Pakistan

Muhammad Usman (Corresponding Author)

Visiting Lecturer, University of Agriculture Faisalabad Sub

Campus Toba Tek Singh

Email: usmanrasheed1133@gmail.com

Zahira Batool

Chairperson, Department of Sociology,

Government College University Faisalabad

Email: zahbatool@gcuf.edu.pk

Zahid Zulfiqar

Associate Professor,

Department of Sociology NCBA& E Multan Sub Campus

Email: drzahid.mul@ncbae.edu.pk

Tehreem Nawaz

M.Phil. Scholar, Department of History,

Govt. College University Faisalabad.

Email: fatimatehreem919@gmail.com

ABSTRACT

Across the globe, the issue of water scarcity is escalating into a significant crisis. More than two billion individuals lack access to safely managed drinking water, and nearly half of the global population faces severe water scarcity for at least one month each year. The current scenario is anticipated to deteriorate as a result of increasing population numbers, the impacts of climate change, and inadequate water management strategies. The objective of this study is to assess individuals' behavior in relation to the consumption of clean water. The research was carried out employing a quantitative methodology alongside a purposive sampling technique. A total of 150 households were surveyed. The Theory of Planned Behavior (TPB) serves as a framework for examining the ways in which residents' attitudes towards water conservation, their understanding of social norms related to water usage, and their perceived capability to conserve water impact their actual behaviors concerning water consumption. There exists a significant negative correlation between demographic characteristics and the water utilized, and the dependent variable, which is the Availability of Drinking Water. The examination further revealed a notable relationship between the key element (Awareness regarding water) and the outcome variable (Availability of Drinking Water). The findings underscore the considerable influence of socioeconomic elements on water security concerning both indoor and outdoor pursuits. The

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results of this study hold significant importance for water operators, enabling them to efficiently oversee and inform households regarding sustainable practices in water usage and conservation via focused outreach initiatives. Access to fundamental water resources is essential for both individuals and communities to enhance their overall quality of life. Water conservation practices, accessibility to clean water, attitudes towards consumption, intentions related to behavior, and patterns of behavior.

Keyword: Water Scarcity, Clean Water Access, Water Consumption Behavior, Water Conservation, Urban Water Usage

Introduction

Water is vital for human survival, humans cannot live without it. Water performs multiple functions in the human body, such as providing lubrication, regulating body temperature, facilitating the elimination of harmful substances, and transporting nutrients. The indisputable requirement of water can be evaluated through the various functions it performs in the body. The value is significant; however, the notion of clean water is of greater importance. The United Nations has recognized the availability of safe drinking water as a fundamental human right (Khalifa & Bidaisee 2018). Ineffectual use of water in urban centers presents a significant challenge in developing nations such as Pakistan. Recognizing ineffectiveness in water supply and consumption, along with related environmental and health issues, can facilitate legislative actions and decision-making regarding effective delivery of water to urban households. International development best practices indicate that the provision of safe water to consume to the residents is the duty of the state or local government (UNESCO 2014). Faisalabad, with an urban population of 2.7 million, ranks as the second largest city in Punjab Province and the third largest in Pakistan. Population and other statistics derive from estimates provided by the Punjab Provincial Government. The population of the city is projected to grow at an annual rate of 1.8 percent, exceeding 3.1 million by 2023 and reaching 4.1 million by 2038. The rapid population growth has created challenges in ensuring adequate water supplies, particularly regarding infrastructure and resource development. Only 77% of the 650,000 m³/day (143 MGD) total water demand was met by the 500,000 m³/day (110 MGD) water delivery capacity that was in place in 2015.

The existing capacity for water distribution is estimated to be 149,000 m³/day (33 MGD) short. Water resources are limited, and delays in the installation of water infrastructure have resulted in

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only 62 percent of homes in the city's current service area having a reliable municipal water supply. Private water sources on individual properties serve to supplement municipal water supply. Identifying and securing new water resources, along with enhancing the city's water supply infrastructure, is crucial for ensuring a sustainable future (JICA, 2019).

The way people utilize water across the world has changed because of urbanization, population growth, and industry. Governments and businesses have tried to get people to use more water per person. There is less water available per person throughout the world, and this is especially true in Pakistan. In 1956, Pakistan had 5,000 m³ of water per person, by 2005 that number had dropped to 1,100 m³. It was a little bit more than what is considered a normal level of scarcity throughout the world. (Ahmad et al., 2010). The amount of water each person uses varies by region and is affected by things like the weather, the quality of the water pressure, the number of the population, and so on. No one agrees on how much water each person needs to be healthy, grow the economy, or improve society. The World Health Organization (WHO) highlighted that each person should drink at least twenty liters of water a day to be clean. In an ordinary household in Pakistan, 62 of the 120 liters of water used each day would be for laundry and cleaning. There are different types of water demands for a person, as well as the WHO's standard water needs for households to check how accurate the per capita water consumption is for household use. Water consumption patterns also change within the residential sector. It's hard for poor people to access clean water, and they sometimes have to go far distances to get it. Most of the time, poor people don't have enough good water to drink. It is nevertheless startling to find that people in cities still don't use water properly (GOP, National Water Policy 2018).

The purpose of this study is to fulfill the following sustainable development goals: Ensure that water and sanitation are available to all people and that they are managed without compromising their sustainability. According to the United Nations, there is a possibility that 700 million people could be forced to relocate as a result of water shortages by the year 2030. In order to prevent this from happening, it is imperative that all nations of the globe work together to ensure those future generations have access to clean and fresh water.

The Theory of Planned Behavior (TPB) identified that a person's purpose to do something has a direct effect on their conduct. Intention is based on (1) how a person feels about the behavior, which is an overall assessment of its possible effects; (2) subjective norms, which are the expectations that important people, like family, friends, and neighbors, have of the person; and (3) perceived behavioral control (PBC), which is how capable a person thinks they are of doing the

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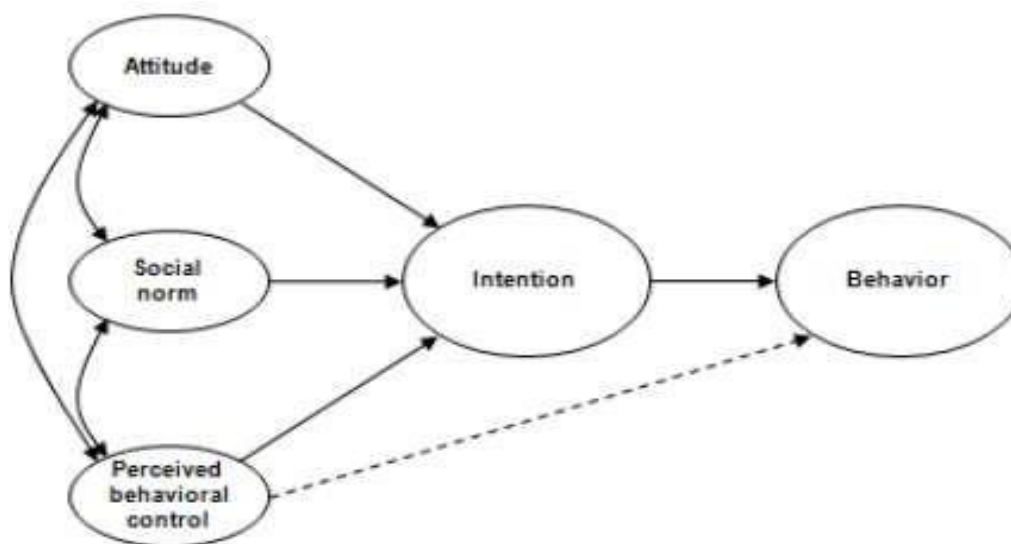
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behavior because of things like having the right opportunities and resources. Ajzen (Fishbein & Ajzen, 2010) describes the attitude toward the conduct as an expectancy-value model. This model says that the overall assessment of an action is based on the expectation that it would lead to certain consequences and how those consequences are rated, or the valence of those consequences. Figure 1 shows the factors and how they relate to each other and to behavior.

Figure 1.



The research conducted by Chaudhry et al. (2025) revealed that there is a direct and unmistakable

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connection between water scarcity and the patterns of water utilization and waste. There is a significant risk to our future that is posed by the lack of sustainable policies that can guarantee a sufficient supply of water, effective management of resources, and universal sanitation. In order to reduce water consumption, it is essential to promote the use of water-saving appliances and fixtures such as showerheads, low-flow faucets, and toilets. Khan et al. (2025) found that the water utility's estimations were much higher than the actual per capita water use. On Fridays, which are considered to be holy holidays for Muslims, there is a statistically significant rise of more than seven percent in the amount of water that is consumed. With maximum daily temperatures topping 31 degrees Celsius, it was discovered that water use increased. However, throughout the summer months, there were shortages of piped water, which limited total water consumption.

Almulhim and Abubakar (2024) identified the connection between the socio-demographic characteristics and the probable behavioral regarding water usage. Wang et al. (2024) demonstrates that the number of bathrooms and the efficiency ratings of appliances are two of the most important home factors that influence water consumption behaviors. Seasonal analysis reveals temporal dynamics, indicating trends towards decreased consumption during the summer months and increasing unpredictability in transitional seasons. According to the findings of Narmilan et al. (2020) high income level and a decent way of life led to an increase in the total amount of water used in homes. As a general rule, it has been shown that those who are older drink less water than those who are younger. The most water was used for showers and baths, which accounted for 72 percent of the total domestic water consumption for residential purposes. Other water-consuming activities included flushing the toilet, maintaining personal hygiene, and washing clothes. It was observed that the size of the family and the number of faucets in a home are two of the most important elements in determining the amount of water that is used by a household. It was also revealed that families with a big number of taps and a large number of members need more water in general. There is a negative correlation between the total household water consumption and the percentage of people who have degrees.

A study conducted by Deyà-Tortella and colleagues in (2017) highlighted that households with better living standards saw a greater rise in water consumption than those with medium and low-medium incomes, which experienced a minor decrease in water consumption. The outcome was that the program had only a marginal effect on reducing water usage, and as a consequence, many families increased their water consumption in response to the rising pricing. Fan et al. (2017), mentioned that the weather, socioeconomic position, water availability, and conservation considerations all had a significant impact on the amount of water that was used on a daily basis in China. The amount of water that was used in different places was likewise influenced by a variety of circumstances. In cities with medium and low consumption, the capacity to provide

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water and the socioeconomic class of the population were determined the amount of water used per capita per day (Kosar, Saeed, & Zulfiqar, 2025).

Despite the fact Vallès-Casas et al. (2017) found that the number of elderly people and the size of households had a negative influence on consumption, the seasonal population was shown to have the expected favorable impact on consumption. On the other hand, none of the climatic and economic characteristics that were investigated, in addition to the urban density and the percentage of the population that is comprised of immigrants were shown to be statistically significant. Kaur (2014) found that the wealth of an individual has a substantial influence on the amount of water that they use. A household's income is inversely related to the amount of water that is used in the home. The High and Middle Income Groups have been shown to have the greatest measured water consumption, which may be attributed to the availability of more water-consuming equipment. On the other hand, these two income brackets are accountable for a significant quantity of water use in the areas of vehicle washing and kitchen gardens and lawns. The fact that these income brackets are willing to pay a higher price for improved water quality and quantity is likely to result in an increase in consumption in the not too distant future (Zulfiqar, 2020).

Methodology

To assess the individuals' behavior in relation to the consumption of clean water, the study employed quantitative research design and purposive sampling was used. The targeted population was the households of Faisalabad. The researcher collected the data from 150 respondents of both sexes. The researcher used the purposive sampling for data collection. The researcher used the interview schedule for data collection and after data collection. The questionnaire was developed from literature and pilot-tested to ensure reliability and validity. The data were analyzed by using the Statistical Package for the Social Sciences (SPSS-24).

Results and Discussions:

Table No. 1: Demographic Characteristics of the Respondent

Characteristics	Frequency & Percentage	Characteristics	Frequency & Percentage
Gender of the respondent		Monthly income of the respondent	
Female	55 (36.7)	up to 20,000	21(14.0)
Male	95(63.3)	20001-40,000	28(18.7)

Education Level of the respondent		40001-60,000	33(22.0)
Middle	2 (1.3)	60,001 & Above	68(45.4)
Secondary	10 (6.7)	Marital Status of the Respondent	
Intermediate	13 (8.7)	Married	52(34.7)
Graduation and above	125 (83)	Unmarried	98(65.3)

Table No. 1 depicted that there were 95 (63.3) percent of the total participants were male; 55 (36.7) percent of the respondents were females. There were 21 (14.0) percent of the respondents whose monthly income was up to 20,000; there were 28 (18.7) percent of the respondents whose monthly household income was 20001-40,000; there were 33 (22.0) percent of the respondents whose monthly household income was 40001-60,000; there were 68 (45.4) percent of the respondents whose monthly household income was 60001 and above.

There were 52(34.7) percent of the respondents were married and 98 (65.3) percent of the respondents unmarried. There were 2 (1.3) of the respondents whose qualification was middle; 10 (6.7) of the respondents who were secondary; 13 (8.7) of the respondents were intermediate and 125 (83) of the respondent were graduation and above.

Table No. 2: Distribution of respondents according to Availability and Accessibility of Water

Characteristics	Frequency & Percentage	Characteristics	Frequency & Percentage
Main source of Domestic water		Taste of water supplied from the main source	
Municipal supply	105 (70.0)	Sweet	54(36.0)
Electric Pump	45(30.0)	Salty	58 (38.7)
Satisfied with the supply of water (Provided by WASA)?		Tasteless	38 (25.3)
Yes	51 (34.0)	Frequency of water supply from WASA (Water and Sanitation Agency)	
No	99 (66.0)	Many times a day	40 (26.7)
Duration of water supply from WASA		Once a day	2 (1.3)

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Less than 10 min	7 (4.7)	Twice a day	81 (54.0)
20 to 30 min	14 (9.3)	Three times a day	27 (18.0)
The level of Respondents agrees that freshwater supplies are very scarce			
30 to 40 min	65 (43.3)	Strongly Disagree	10 (6.7)
		Disagree	9 (6.0)
		Neutral	13 (8.7)
40 to 60 min	64 (42.7)	Strongly agree	46 (30.7)
		Agree	72 (48.0)

Table No. 2 depicted that There were 54 (36.0) percent of the respondents who stated that the taste of the water was sweet; 58 (38.7) percent of the respondents reported that the taste of the water was salty and 38 (25.3) percent of the respondents mentioned that the taste of the water was tasteless. There were 51 (34.0) percent respondents satisfied from the supply of the water by the WASA; but majority 99 (66.0) percent of the respondents were not satisfied from the supply of the water by the WASA. There were 7 (4.7) percent of the respondents who answered that duration of water supply from WASA was less than ten minutes; 14 (9.3) percent of the respondents who answered that duration of water supply from WASA was 20 to 30 minutes; 65 (43.3) percent of the respondents who answered that duration of water supply from WASA was 30-40 minutes; 64 (42.7) percent of the respondents who answered that duration of water supply from WASA was 40-60 minutes. There were 40 (26.7) percent of the respondents who reported that water supply from WASA was many times a day, 2 (1.3) percent of the respondents who reported that water supply from WASA was once a day, 81 (54.0) percent of the respondents who reported that water supply from WASA was many twice a day, 27 (18.0) percent of the respondents who reported that water supply from WASA was three times a day. There were 10 (6.7) percent of the respondents strongly agreed that freshwater supplies were very scarce; There were 9 (6.0) percent of the respondents disagree that freshwater supplies were very scarce; There were 13 (8.7) percent of the respondents neutral that freshwater supplies were very scarce; there were 46 (30.7) percent of the respondents strongly agreed that freshwater supplies were very scarce; there were 72 (48.0) percent of the respondents agreed that freshwater supplies were very scarce.

Table No. 3.

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Characteristics	Frequency Percentage	&	Characteristics	Frequency Percentage	&
Management of Various agencies			Extra used by the individuals		
Not at all	21 (14.0)		Not at all	13 (8.7)	
To a small extent	75 (50.0)		To a small extent	58 (38.7)	
To a large extent	54 (36.0)		To a large extent	79 (52.7)	
Increases in population			Carelessness of the users		
Not at all	9 (6.0)		Not at all	12 (8.0)	
To a small extent	53 (35.3)		To a small extent	46 (30.7)	
To a large extent	88 (58.7)		To a large extent	92 (61.3)	
Lack of planning					
Not at all	9 (6.0)		To a small extent	42 (28.0)	
To a large extent	99 (66.0)				

Table No. 3 depicted that there were 9 (6) respondent believe that it is "not at all" a cause. There was a later question that also concerned the growth of the population, and an even higher majority of respondents cited it as a significant cause. "To a large extent" was the response given by 92 respondents, which represents 61.3% of the total. "To a small extent" is the opinion held by 46 respondents, which accounts for 30.7% of the total. It is a reason that 12 respondents, or 8%, believe is "not at all" a cause. An overwhelming majority of respondents believe that negligence on the part of users is another main factor that contributes to water shortages. "To a large extent" is the sentiment expressed by 92 respondents, which accounts for 61.3 percent of the total. "To a small extent" is the opinion held by 46 respondents, which accounts for 30.7% of the total. Twelve respondents, or eight percent, believe that it is "not at all" an influence. The absence of preparation is the factor that has received the most support from those who participated in the survey. Seventy-nine percent of those who participated in the survey are of the opinion that "Lack of planning" is a significant factor that contributes "To a large extent" to water shortages. "To a small extent" is how 42 respondents, or 28.0%, believe it contributes. A total of nine respondents, or six percent,

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said that it was "not at all" a reason.

Table No. 4:

Distribution of respondents according to how many times respondents use WASA water for Specific purpose

Characteristics	Frequency & Percentage	Characteristics	Frequency & Percentage
Dish Washing		Bathroom and House Cleaning	
Once a day	9 (6.0)	Once a day	83 (55.3)
Twice a day	89 (59.3)	Twice a day	15 (10.0)
Thrice a day	46 (30.7)	Thrice a day	5 (3.3)
Few times a week	5 (3.3)	Few times a week	24 (16.0)
Few times a month	1 (.7)	Few times a month	4 (2.7)
Purpose of Cloth washing		Washing Vehicles	
Thrice a day	5 (3.3)	Once a day	19 (12.7)
Twice a day	11(7.3)	Twice a day	8 (5.3)
Once a day	14 (9.3)	Thrice a day	2 (1.3)
Few times a week	112 (74.7)	Few times a week	27 (18.0)
Few times a month	7 (4.7)	Few times a month	55 (36.7)
Watering Plants & Lawns			
Once a day	33 (22.0)	Thrice a day	7 (4.7)
Twice a day	20 (13.3)	Few times a week	16 (10.7)
Few times a month	12 (8.0)	Never	62 (41.3)

Table No. 4 depicted that there were 21 (14.0) percent of the respondents responded that management

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of the different agencies were contributed “not at all”; There were 75 (50.0) percent of the respondents responded that management of the different agencies were contributed “to a small extent”; There were 54 (36.0) percent of the respondents responded that management of the different agencies were contributed “to a large extent”. There were 9 (6.0) percent of the respondents responded that the increase in population is one of the primary factors contributing to water scarcity “not at all”; There were 53 (35.3) percent of the respondents responded that the increase in population is one of the primary factors contributing to water scarcity “to a small extent”; There were 88 (58.7) percent of the respondents responded that the increase in population is one of the primary factors contributing to water scarcity “to a large extent”; There were 9 (6.0) percent of the respondents responded that lack of planning is one of the primary factors contributing to water scarcity “not at all”; There were 99 (66.0) percent of the respondents responded that lack of planning is one of the primary factors contributing to water scarcity “to a small extent”; There were 42 (28.0) percent of the respondents responded that lack of planning is one of the primary factors contributing to water scarcity “to a large extent”.

There were 13 (8.7) percent of the respondents responded that extra used of the water by the people is one of the primary factors contributing to water scarcity “not at all”; there were 58 (38.7) percent of the respondents responded that extra used of the water by the people is one of the primary factors contributing to water scarcity “to a small extent”; there were 79 (52.7) percent of the respondents responded that extra used of the water by the people is one of the primary factors contributing to water scarcity “to a large extent”. There were 12 (8.0) percent of the respondents responded that carelessness by the users is one of the primary factors contributing to water scarcity “not at all”; There were 46 (30.7) percent of the respondents responded that carelessness by the people is one of the primary factors contributing to water scarcity “to a small extent”; There were 92 (61.3) percent of the respondents responded that carelessness by the people is one of the primary factors contributing to water scarcity “to a large extent”.

Table No. 5: Distribution of respondents according to the level of Consumption water, Consciousness and water saving Practices?

Characteristics	Frequency & Percentage	Characteristics	Frequency & Percentage
Purpose of the respondent consuming more water		Are Household member are conscious about the consumption of water at home	
Dish Washing	43 (28.7)	Greatly Conscious	31 (20.7)
Bathroom Cleaning	48 (32.0)	Somewhat conscious	67 (44.7)
House Cleaning	22 (14.7)	Not much conscious	45 (30.0)

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Cloth washing	37 (24.7)	Not at all conscious	7 (4.7)
In order to save water, what actions does the responder take?			
Using kitchen water for flower watering	12 (8.0)	Water saving shower head	7 (4.7)
For toilet Flushing	3 (2.0)	Proper Maintenance (Leakage Repair etc.)	43 (28.7)
Half opening taps	32 (21.3)	No water Saving Practices	32 (21.3)
Water saving tap	21 (14.0)		

Table No. 5 depicted that there were 43 (28.7) percent of the respondents who dish wash; 48 (32.0) of the respondents who use water for bathroom cleaning; 22 (14.7) percent of the respondents who use water for house cleaning and 37 (24.7) percent of the respondents who used water for clothes washing. There were 31 (20.7) percent of the respondents responded that their family members were “greatly conscious” about the consumption about the water; there were 67 (44.7) percent of the respondents responded that their family members were “somewhat conscious” about the consumption about the water; There were 45 (30.0) percent of the respondents responded that their family members were “not much conscious” about the consumption about the water, and there were 7 (4.7) percent of the respondents responded that their family members were “not at all conscious” about the consumption about the water.

There were 12 (8.0) percent of the respondents who used kitchen water for flower watering; 3 (2.0) percent of the respondents who used kitchen water for toilet Flushing; 32 (21.3) percent of the respondents who Half opening taps to save water; 7 (4.7) percent of the respondent who used water saving tap; 21 (14.0) percent of the respondent who used water saving head; 43 (28.7) percent of the respondent who did Proper Maintenance (Leakage Repair etc.), and 32 (21.3) percent of the respondent did not have water saving practices.

Table No. 6. Hypothesis: Behavior of Increased use of water for domestic chores reduces the overall availability of water.

Consumption Behavior	Availability of Water					
	Excellent	Very Good	Good	Poor	Very Bad	Total

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1	Thrice a day	66.7 (2)	0.0 (0)	0.0 (0)	33.3 (1)	0.0 (0)	100.0 (3)
2	Once a day	21.1 (4)	52.6 (10)	15.8 (3)	0.0 (0)	10.5 (2)	100.0 (19)
3	Few times a week	0.0 (0)	0.0 (0)	79.3 (23)	13.8 (4)	6.9 (2)	100.0 (29)
4	Few times a Month	1.1 (1)	0.0 (0)	1.1 (1)	85.7 (78)	12.1 (11)	100.0 (91)
5	Never	12.5 (1)	12.5 (1)	25.0 (2)	0.0 (0)	50.0 (4)	100.0 (8)
Total		5.3 (8)	7.3 (11)	19.3 (29)	55.3 (83)	12.7 (19)	100.0 (150)

Chi-Square: 217.723, Sig. Level: 0.000, Gamma: 0.684, Sig. Level: 0.000

The following table illustrates the link between the use of water for the many applications listed below and the quantities of water that are available. There is a high link between the variables, as shown by the Chi-square value (217.723, sig 0.000), and the Gamma value (0.684, sig 0.000) illustrates that there is a strong positive relationship between the independent variables and the dependent variables. Those with higher and middle-incomes are willing to pay a higher price for water that is of higher quality and quantity, which will result in a rise in consumption in the not too distant future. The increasing temperatures, especially during the summer, led to a rise in the amount of water that was used for activities such as taking more showers each day, washing clothing, and watering plants (Kaur, 2014). This was a result of climate change and seasonal variations, which have an effect on water consumption.

Table No. 7

Multiple Regression Model:

Standardized Regression Coefficients, T Values and Level of Significance Of Independent Variables Regressed On Availability of Clean Water.

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Sr. #	Variables	Standardized Coefficients Beta	t	Sig.
1	Awareness regarding water X ¹	.204	2.672	.008
2	Household use WASA water for (Drinking, Cooking Laundering, Bathing Toilet Flushing, Flower Watering, Motor bike/Car Washing, Home Sanitation) X ²	-.108	-1.469	.144
3	Consumption Behavior of water for the following purposes (Dish Washing, Bathroom Cleaning, House Cleaning, Cloth washing, Washing Vehicles, Watering Plants, Watering Lawns) X ³	.334	4.377	.000
4	Household Income of the respondent. (Monthly) X ⁴	.166	2.146	.034
5	Total number of family members living in home? X ⁵	.099	1.266	.208
R square .292				

Multiple linear regression (MLR) was used to ascertain a statistical link among diverse random variables. In other words, multiple linear regression examines the relationship between many independent variables and a single dependent variable. Once all independent components have been determined to predict the dependent variable, the data on numerous variables may be used to provide an accurate estimate of their influence on the dependent variable. The model establishes a linear connection that optimally approximates all individual data points. The standardized coefficient beta value ranges from 0 to 1, where 0 indicates that the independent variable does not predict the response variable, meaning changes in the independent variable do not affect the

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dependent variable, while a value of 1 signifies that changes in the independent variable perfectly correspond to changes in the dependent variable.

In this table, beta values represent the variation in the dependent variable resulting from a one-unit change in the independent variable. The beta value of 2.04 for the variable age indicates that a change in awareness of water will result in a 2.04-unit change in water availability. Individuals use more water than necessary due to a lack of awareness about water scarcity (Hota 2014). The change in the dependent variable that occurs as a result of a change of one unit in the independent variable is represented by the beta values. " - " It is indicated by the 108 beta value of variable age that the use of WASA water by households for the activities listed below will result in a change of 1.08 units in the amount of water that is available. The presence of a negative number implies that the change will be unfavorable, and the household's utilization of WASA water for the activities listed below will result in 1.08 percent. Generally speaking, water is used in residential constructions for a variety of reasons, including but not limited to flushing toilets, washing clothes and dishes, taking showers and baths, and a number of other activities (including cooking and drinking). Walker (2010) explains that the residential sector is responsible for the highest water use in cities. .334 is the beta value of the variable that is independent. It has been determined via the use of water for the following reasons that an increase in the amount of water used will result in a 3.34 percent decrease in the amount of water that is available. According to Sadr et al. 1750, the kind of water that was used for bathing and showering accounted for the greatest share of total water usage in both stand-alone homes and flats.

According to Haziq and Panezai (2017), the top activities that required water consumption were cooking, bathing, washing clothing, and maintaining cleanliness. Value of the family's income in beta formula. The rise in the household income of the family will result in a 1.66 percent increase, as shown by the number 166. The availability of water will suffer as a result. There is a clear correlation between the total amount of water used in the home and the income of various groups. As a consequence of changes in lifestyle, there has been an increase in consumption (Jethoo, 2011). According to Deyà-Tortella (2017), the increase in water consumption by households with better living circumstances was significantly more than the moderate decrease in water consumption by households with medium and low-medium incomes for comparable households.

The change in the dependent variable that occurs as a result of a change of one unit in the independent variable is represented by the beta value. The fact that the beta value of variable age is 0.99 suggests that an increase in the number of family members living in the same house will result in a change of 0.99 units in the amount of water that is available. The number of taps that are accessible, the age of the family members, the degree of education they have, and the size of

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the family. Furthermore, the majority of the members of the family are devoid of knowledge about the effective utilization of water (Leo and Gregory 2003). In order to have a better understanding of the degree to which the connection between two factors may influence the degree to which one element can vary, the coefficient of determination is used. In the process of pattern analysis, it is relied on heavily, and it is referred to as an incentive somewhere in the range of 0 to 1. The connection between the two variables is considered to be more favorable when the esteem is closer to the value of 1. The coefficient of determination, also known as "R," is the square of the correlation coefficient. Its purpose is to demonstrate the degree of linear connection that exists between two parameters. In the model with many variables, such as a multiple regression model, the square of the coefficient of determination, often known as R^2 , should be used. In the field of social sciences, a value of 0.40 R^2 is regarded to be desirable, however in the field of economics, a value of 0.60 R^2 is considered to be worthwhile. Furthermore, an R-squared value of 0.292 indicates that the independent variable is able to predict 29.2% of the dependent variable.

Conclusion

The study was conducted in the Faisalabad, Punjab. The research examined the respondents' clean water drinking habits that impacting on their health. Data was statistically analyzed that showed the respondents' socioeconomic status and their water usage habits. The study found that high- and middle-income people use a lot of water for cooking, gardening, and car washing. A study found that the big families reduce water availability. As household adults rise, so does consumption per capita. Family size and taps were major indicators of home water usage, with families with many people and taps using more water. Large Marla houses reduce water availability. Illiteracy caused people to drink too much water. Education negatively impacts residential water consumption. Majority of the respondents (66.0%) were unhappy with WASA's water owing to inconsistency and pollution. Water shortages are caused by poor planning. Most respondents had never seen a water conservation public awareness campaign. A study found that more water was utilized than needed for laundry, bathing, toilet flushing, bike/car washing, home sanitation, and personal hygiene. It was found that water prices are typical and people desire to spend money on water quality, dependability, billing, service, and maintenance. It is suggested that awareness campaigns should be started at union council and used all media for spreading the information regarding the importance of water.

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