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Impacts of Community Participation on Sustainability of Rural Water Supply Sytems: A Study from District Lahore, Pakistan

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Abstract: *The availability and functionality of an improved water supply system among the population are basic human rights and imperative to prevent numerous viral/infectious diseases. The provision of safe drinking water, improved sanitation, and hygiene plays a central role in individual and communal health, but unfortunately, the situation is strikingly poor among nations, especially in developing countries like Pakistan. To understand the existing situation and the impacts of community participation on the sustainability of the water supply system, this study was conducted in the district of Lahore, Pakistan. The prime objective was to find out the participation of the community in planning, execution, operation and maintenance, evaluation process, and the management approaches and techniques with a view of seeing how best community participation level contributed to the sustainability of the water supply program. For this purpose, a simple random sampling procedure was applied to draw the sample from the population. A semi-structured questionnaire was used as a tool for data collection and validated through pilot testing. Results showed that participatory approaches in water supply program planning, execution, operation, maintenance, and evaluation led to community satisfaction and program sustainability.*

Key Words: Community, Community Participation, Sustainability, Water Supply Programme

Introduction

Safe drinking water and improved sanitation are the basics for human health growth and development. Availability and functionality of an improved water supply system among the population is one of the basic human rights and imperative to prevent numerous viral/infectious diseases (Soliman et al., 2023). The provision of safe drinking water, improved sanitation, and hygiene plays a central role in individual and communal health, but unfortunately, the situation is strikingly poor among nations, especially in developing countries like Pakistan (Naika, 2022). Keeping in consideration the importance and sensitivity of the issue, the world's leading platforms, such as the United Nations, Millennium Development Goals (MDGs), and Sustainable Development Goals (SDGs), take major initiatives to improve the existing situations (Hannibal et al., 2019).

Inadequate access to safe drinking water and unsafe water, sanitation, and hygiene (WASH) practices have become the prime reasons for morbidity and mortality (Darmi et al., 2021). About 780 million people lack access to clean drinking water facilities, and about 2.5 billion people have insufficient sanitation facilities in their areas. According to the World Health Organization (WHO), 6.3% of deaths occur only due to poor water and sanitation practices worldwide (Branjang, 2022). Similarly reported by the United Nations that around 14,000 individuals die every day from water-borne ailments, and this greater part of

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the death rate has been identified with various contaminants, which incorporate 2 billion instances of intestinal worm, 5 million instances of Lymphatic Filariasis, and trachoma, and 1.4 million infarcts diarrheal deaths, and 500,000 deaths because of jungle fever malady (City Population, 2023).

Demise and incapacity rates are twice as high among youngsters younger than 14 years. Around 5,000 kids die every day from tainted water-borne and sanitation-related illnesses, and 90% of kids die before the age of 5 years (Aikowe, 2021). The situation in developing nations like Pakistan is more alarming, as around 70% of individuals are living in rural areas with meager access to safe drinking water and improved sanitation. In this regard, various national and international organizations, stakeholders, and governments are working to provide clean drinking water facilities to rural areas of the country. In this regard, different approaches are applied according to the needs, nature, and situation of communities (Theodory, 2022).

To execute such water supply programs by involving and ensuring local communities' participation to make water supply programs adequate and sustainable (Young, 2021). Participation is a procedure through which partners effect and offer control over development activities and the choice and assets unless the poor are given an equivalent chance to take part in the development of intercessions intended to enhance their lives (Li et al., 2022). In this way, community participation turns into a coordinated part to finish intercessions intended for all. In this way, community participation is a social procedure in which particular gatherings with shared needs, frequently yet not continually living in a characterized geological zone, effectively seek recognizable proof of their needs, settle on a choice, and build up a system to address these issues (Ali et al., 2018).

Community Participation in the water supply segment is a kind of administration of rural water supply programs that is currently entering its second decade as a key worldview for water supply improvement and administration (Bryson et al., 2020). Community participation approaches did not show up suddenly. It arose out of a long history of experimentation in the rural water supply area, which is connected to development as well as influenced by improvements in numerous different divisions, especially identified with provincial improvement, normal asset administration, and particularly water asset administration (Calzada et al., 2017).

The significance of water for life is forever and certain. Along these lines, a few worldwide gatherings and a number of associations have developed in the most recent two decades, which give basically worry to the administration of water assets so that its shortage can be avoided in the future (Kumar et al., 2022). In such a manner, the final declaration of the International Conference was held on water administration and sustainable development, which perceived that about a quarter of the total populace did not approach safe drinking water offices (Mlaba et al., 2022). Similarly, the Dublin Conference was held on water and conditions, which became an assertion usually known as the Dublin Statement, which has been a point of interest in the late history of water resource management. The Dublin Statement built up four standards identified with water administration and community participants:

- Water development and administration ought to be founded on a participatory approach that includes the community, policy planners, and organizers of water supply programs at all levels.
- Women's participation plays a key part in the arrangement, administration, and defense of water supply facilities.
- Water has a monetary and social incentive in all its contending utilizes and ought to be perceived as a financial decent.
- Fresh water is a vulnerable asset. It is a basic human need that plays an important role in the development and maintenance of the environment.

Pakistan is a developing nation, and the status of water supply and sanitation is very high. Water utilization per capita fluctuates in urban and rural territories. In urban ranges, the amount of water is utilized everywhere because of simple access to infrastructural systems and better financial conditions (Pot et al., 2022). In rural areas, water utilization is less for locals to utilize on account of the absence of access to water, yet more water is required for raising domesticated animals. The wastage of water is much less when contrasted with urban territories. Currently, water in the nation is over 65% of the aggregate populace, and the nation is approaching safe drinking water (Yator et al., 2020). Around 85% man living in more than 500 urban spots, including urban areas and towns, while in rural areas, around 55% man is

living in 30,000 huge towns that have arranged water supply offices, while 20,000 rural settlements are without water supply programs which are required to be developed (Maduku, 2021).

Pakistan is a signatory to the Sustainable Development Goals (SDGs) and has devotion and commitment to the SDGs targets identifying with sanitation and water supply (Abdul-Rahim et al., 2018). Pakistan has defined distinctive approaches identified with water supply, such as 1) the National Environment Policy (2005), 2) the National Sanitation Policy (2006), 3) the National Drinking Water Policy (2009), and 4) the National Climate Change Policy (2012). These strategies give fundamental legitimate help to the execution of various government activities and intercessions in the watered Sanitation area (Iftikhar et al., 2021). There is additionally a national sense of duty regarding actualizing the Pakistan Approach to Total Sanitation, which includes a hundred percent scope of sanitation and making towns free from open defecation, which will additionally lead to creating diverse mediation, for example, water filtration plants, water supply to the towns to guarantee to get to the group to safe drinking water and sanitation (Saha et al., 2023).

Late study information likewise shows that the significant extent of utilizing enhanced sanitation expanded from 37% in 2000 to 48% in 2009-10, and flush restrooms expanded from 45% in 2001 to 66% in 2010-11 (Iftikhar et al., 2021). Agencies that are working to provide clean drinking water and sanitation facilities in Pakistan at the federal and provincial levels are not only operating but also maintaining projects such as the Water and Sanitation Authority (WASA's), Public Health Engineering Department (PHED), Town Municipal Administration (TMA's), Capital Development Authority (CDA), Union Councils and Community Based Organizations (CBO's). According to an economic survey of Pakistan, more than 60% of the population of Pakistan is suffering from poverty. The majority live in rural areas and are deprived of financial resources, basic health facilities, education, and access to safe drinking water facilities and sanitation (Abdul-Rahim et al., 2018).

The Planning and Development Department established a provincial department, Public Health Engineering Department, to meet water supply and sanitation facilities in rural and urban areas. The goal of PHED is to enhance the quality of life of the people of Punjab by providing safe drinking water, especially in rural areas (Kumar et al., 2022). Provision of a pollution-free environment through sewerage drainage schemes and construction of disposal and oxidation ponds. PHED is also responsible for planning, designing, executing, and evaluating water facilities, while piped network coverage is about 48% in villages. PHED is following and implementing community participation approaches in planning, implementing, and handing over the program to the community for further operation and maintenance (Ali et al., 2018). The PHED has provided water supply facilities and handed over 4000 programs to local community-based organizations (CBOs). Although PHED setup does not exist in other provinces, their only department is responsible for O&M and does not ensure community participation in the water supply sector (Shunglu et al., 2022).

Community Participation and Sustainability

The idea of community participation has been multiplying in underdeveloped nations since the 1980s, and they have presently acknowledged segments of project design among standard donor agencies (Nikolopoulou, 2022). Advocates and professionals of the idea declare that strengthening individuals, having local experiences, and having, For example, 'individual participation,' people cooperation, community participation, social mobilization, grassroots advancement, projects have been started on smallholder, domesticated animals development, water system and water correspondingly are used in participation concepts (Andualem et al., 2021).

Moreover, community participation is also interpreted as meaning that the community plays a dynamic part in its own issues by contributing to practicing political and monetary power (Warner et al., 2021). Community participation is also characterized as a procedure through which people, families, and communities accept accountability and responsibility for local issues and build up their own particular community development. In participation, it is contended that the selection of participation and introduction in contemporary standard development is, to some degree, an unconventional event.

Democratization being developed has had a long effect on both the developed and developing world (Kimaro, 2019).

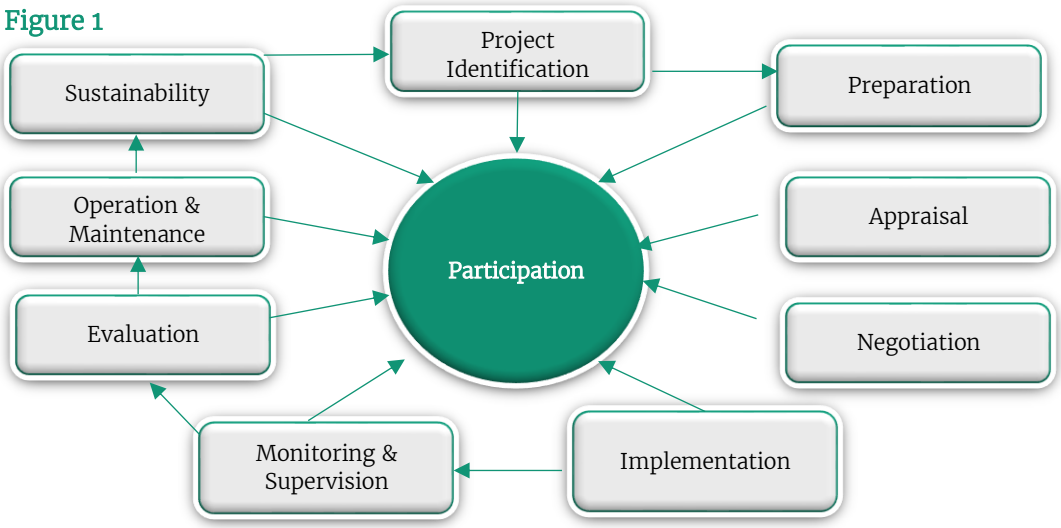
Despite the complex nature of community participation in the administration of water resources, it is possible to portray the preconditions that influence the conditions in which community administration can happen (Pertamsari et al., 2020). WASH recognized the essential preconditions for community participation, which is most likely going to be contained.

- Demand for an improved framework, the information regarding the planning of programs must be transferred to the community.
- Machinery and levels of administration must be equivalent to the communities.
- It also identifies the needs and ability to fund, oversee, and look after them.
- The community must comprehend its alternatives and assume liability for the framework.
- The community must put resources into capital and repetitive expenses.
- The people group must be enabled to settle on choices to control the framework.

Powerful external support must be accessible from governments, benefactors, and the private sector (training, specialized guidance, credit, development, contractual workers, and so forth (Lameck et al., 2021). There are a few signs that associations and organizations guarantee group community participation in various stages of executing the program. So, it can be concluded that different scholars strongly support the idea that community participation is one of the key components that is required and taken into account for program planning and implementation. On the other hand, community and different stakeholders' participation in project decision-making make it more reliable and sustainable (Peng et al., 2020).

Community participation, organization, and sustainability rely upon the conviction that water is a monetary and, furthermore, a social good (Lyatuu et al., 2023). While evaluating water programs at the community level, in addition to using different tools that are helpful for evaluating the performance of a program are community participation, management, sustainability indicators, and financial resources. Beneficial effectiveness looks at if a cost is ideal and the program is functional. Effectiveness likewise shows if communities are viably utilizing the developed services by submitting adequate budgetary assets (Mojid et al., 2021). In particular, profitable effectiveness analysis evaluates if the assets utilized as a part of creation are used proficiently and, in this manner, shows the capacity of administration in allotting rare assets.

Figure 1



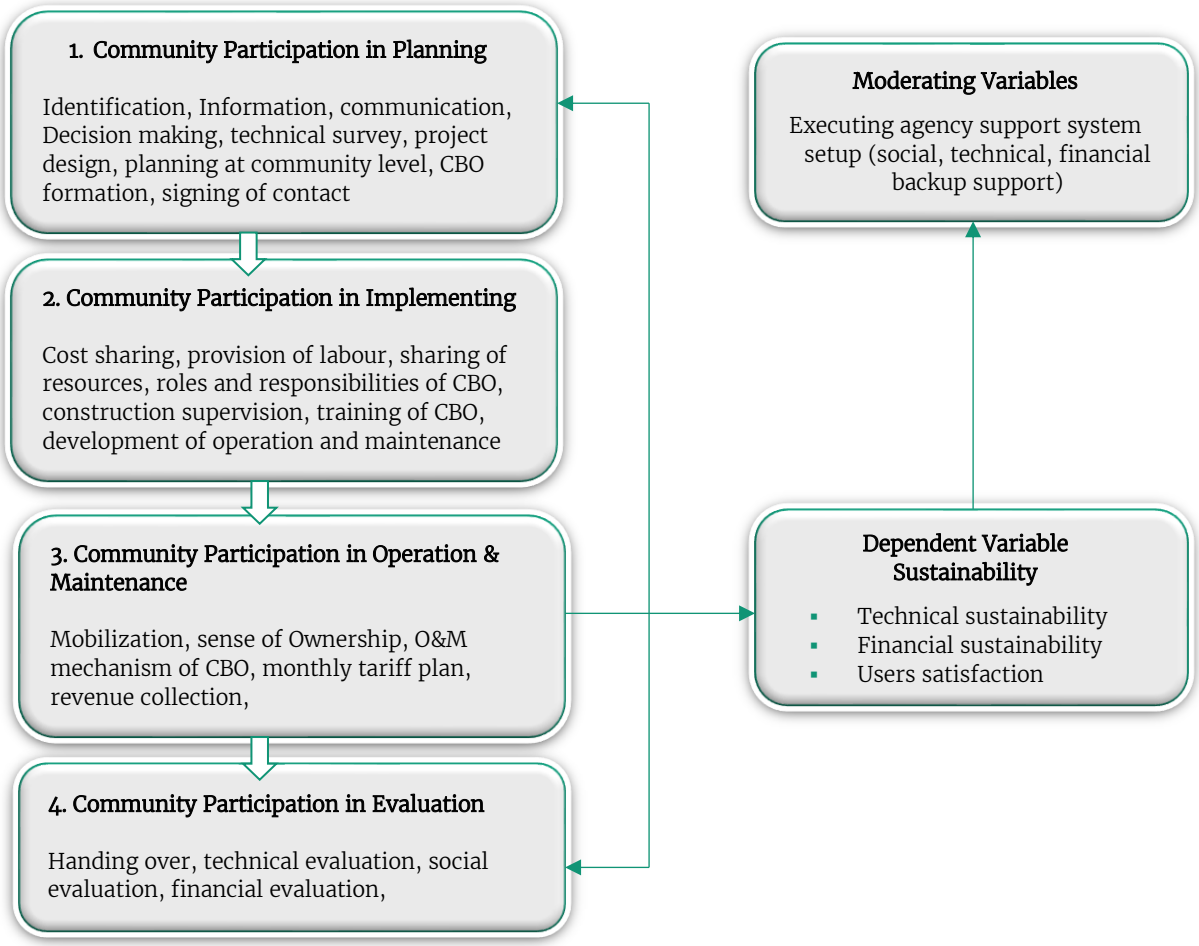
Community Participation Impact and Sustainability of Water Supply System

Sustainability in this investigation alludes to the expertise of program users to operate, maintain, and sustain water supply facilities, administrations, and any other activity started by a program in order to keep going long after the lapsing of the subsidizing date (Madias et al., 2022). In the water sector, sustainability can't be discussed without addressing operation and maintenance issues. A safe and clean

drinking water supply is practical just if the water used is not wasted but rather normally recharged and accommodations are kept up in a condition that guarantees a solid and sufficient compact water supply. The welfare of the water supply should be acknowledged over a long timeframe (Yator et al., 2020).

Furthermore, transparency in the sharing of community finance should also be considered. As a result, the community members will take an interest and will not exploit water facilities, and this mechanism system should be explained in the planning phase of the program (Mlaba et al., 2022). For instance, in the water program, individuals hope to see national water focuses associated with boreholes that are bored and in operation. Women's contributions to program activities and capacity building are likewise fundamental to supporting program-started administrations. This is on the grounds that women are the principal partners in water plans (Calzada et al., 2017). Along these lines, women's cooperation and authority positions in water committees are inescapable for viable water ventures. It is concluded that many scholars agree that community participation always impacts the sustainability of water supply programs as it's a time-consuming process and requires a community's active involvement in planning, execution, and maintenance, which have a solid effect on the sustainability of water supply programs.

Conceptual Model for this Study



Objective

- To assess the level of community participation in the planning, execution, operation & maintenance of rural water supply system.
- To identify the performance of management and service delivery of water supply facilities by the water management committee.
- To explore the relationship between participation and sustainability of rural water supply programs.
- To find out the level of water user satisfaction with the delivery and management service of a water supply facility.

Methodology

This primary study applied quantitative methods and techniques to approach the participants and collect primary information from selected areas. The target population was the water users (heads of households) from functional water supply schemes of district Lahore. There are a total of 45 water supply schemes, including 22 functional and 23 dysfunctional. Through a simple random sampling method, three (03) water supply schemes were selected, such as 1) the water supply scheme Shamki Bhattian, 2) the water supply scheme Sultan Town, and 3) the water supply scheme Mall, as presented in Table 1.

Table 1

Stratification of participants from selected water supply schemes

	WSS Shamki Bhattian		WSS Mall		WSS Sultan Town	
	Target population	Sample	Target Population	Sample	Target Population	Sample
Community Members	1267	124	859	82	975	94
Management Committee	20	2	20	2	20	2
Executing Agency	30	3	30	3	30	3
Total (10%)	129		87		99	
Grand Total	315					

The sample for this study is determined through the Casely and Kumar (1998) method. If the population is smaller in size, a larger percentage of the population will be drawn for the sample size, and if the population is larger in number, then a smaller percentage will be drawn for the sample size. It has been argued by Casely and Kumar that after a certain sample percentage, usually 20%, the effect of the sample size on research outcome remains constant or normalized. So, by keeping in view these standards, the minimum survey sample recommended for a larger population is 10%.

A semi-structured questionnaire was adopted as the tool of data collection, which was the most appropriate approach for in-depth study; questions can be explained and repeated if the respondent does not understand the nature of the question. To check the validity and reliability of the research tool, the researcher pretested 25 No respondents selected from two water supply schemes other than the target areas of this study. Before the actual data collection, researchers obtain the necessary permission from all concerned stakeholders, such as the Public Health Engineering Department (PHED), Community-Based Organizations (CBOs), and the participants. The collected data was analyzed using descriptive and inferential statistics and presented through tables, graphs, and interpretation.

Results and Discussion

Descriptive Analysis

Through descriptive analysis, the researcher tries to present the overall geographical and demographic aspects of this study. Descriptive statistics are generally used to present quantitative descriptions, which are basically used to describe the basic features and mostly contain information regarding lists of numbers that describe a population. Table 2 presents the details regarding participant gender stratification as 35.2% of respondents were female, and more than 64.7% of respondents were male.

Table 2

Distribution of demographic characteristics

Demographic Characteristics	Description of characteristics	N	%
Gender	Male	204	64.7
	Female	111	35.2
	Total	315	100
Age	20-30	110	34.9
	31-40	160	50.7
	41-50	25	7.9
	51-60	11	3.4

Demographic Characteristics	Description of characteristics	N	%
	Above 60	9	2.8
	Total	315	100
Education Level	Primary	42	13.3
	Middle	89	28.2
	Matric	102	32.3
	Graduate	51	16.1
	Post Graduate	31	9.8
	Total	315	100
Monthly Income	Less than 5000	14	4.4
	5001-10000	57	18.0
	10001-20000	155	49.2
	above 20000	89	28.2
	Total	315	100

Table 2 also highlights the age of the respondents: 34.9% of respondents were between 20-30 years, 50.7% were between 31-40 years, 7.9% were between 41-50 years, 3.4% were between 51-60 years, and 2.8% respondents were above 60 years of age. Similarly, when respondents were asked about their education level, 13.3% of respondents reported primary education level, 28.2% were middle, 32.3% were Matric, 16.1% were graduates, and only 10% of respondents' qualifications were post graduate. Table 2 indicated that only 4.4% of respondents' monthly incomes were less than 5000, 18% were between 5001-10000, 49.2% of respondents' monthly incomes were between 10001-20000, and 28% of respondents' incomes were above 20000. Therefore, it is concluded that almost 49% of the respondents' monthly income was between 10001-20000, which means respondents have average economic conditions and are paying capacity for the water tariff of the water supply facility.

Table 3 intimated that descriptive statistics on community participation in planning the responses to the questions that were posed to the respondents. It also presents the extent of respondent participation in different phases of planning activities and respondent perception of the impact of planning activities on the sustainability of water supply programs.

Table 3

Community participation and water supply scheme systems

Demographic Characteristics	Description of characteristics	N	%
Community Participation in Planning	Low	75	23.8
	None	66	20.9
	High	75	23.8
	Very high	99	31.4
	Total	315	100
Community Participation in CBO Formation	Very low	25	7.9
	Low	75	23.8
	None	75	23.8
	High	140	44.4
	Total	315	100
Community Participation in decision making	Very low	24	7.6
	Low	75	23.8
	None	66	20.9
	High	27	8.5
	Very high	123	39.0
	Total	315	100
Community contribution	Labor	26	8.9
	Construction material	75	23.8
	Cash	85	26.9

Demographic Characteristics	Description of characteristics	N	%
	None	124	39.8
	Total	315	100
Community role in sustainable functioning	Very low	27	8.6
	Low	75	23.8
	None	75	23.8
	High	138	43.8
	Total	315	100.0

The findings presented in Table 3 are about the respondent's opinions regarding the extent of community participation in the planning phase of the water supply system in their communities. Results show that almost 55% of respondents reported very high responses regarding participation in community meetings for the need for water supply programs. Similarly, a huge proportion, 58% of participants, reported a high response in favor of participation during the process of CBO formation for their water supply system. When the respondents were asked about their participation in decision-making, most of the respondents, 52.3%, reported poor responses and did not show their satisfaction in this regard, while 60.2% of respondents presented their share in the form of cash and services. The participants of the study highlighted that the role of the community is very important in the functioning and sustainability of the water supply system in their communities.

Pearson Correlation

Through Pearson Correlation analysis, researchers try to understand the significance of the relationship, the strength of the linear relationship (how close the relationship is), and the direction of linear relationships (increasing or decreasing) between pairs of continuous variables. In this research, Pearson correlation tests have been applied to test the relationship between community participation in planning and user satisfaction, community participation in execution and user satisfaction, community participation in operation and maintenance, and user satisfaction and community participation in evaluation and user satisfaction.

Table 4

Community participation and user satisfaction

		User Satisfaction	Community Participation in Planning
User Satisfaction	Pearson Correlation	1	.962**
	Sig. (2-tailed)		.000
	N	315	315
Community Participation in Planning	Pearson Correlation	.962**	1
	Sig. (2-tailed)	.000	
	N	315	315
		User Satisfaction	**Community Participation in Execution**
User Satisfaction	Pearson Correlation	1	.982**
	Sig. (2-tailed)		.000
	N	315	315
Community Participation in Execution	Pearson Correlation	.982**	1
	Sig. (2-tailed)	.000	
	N	315	315

**Correlations are significant at the 0.01 level

Table 4 is about the relationship between community participation in planning and user satisfaction. It shows that there is a strong relationship between Community participation in planning and user satisfaction. This means that changes in one variable are correlated with changes in the second variable. The researcher assumed that there is a relationship between community participation in planning and user satisfaction. If community members participate in the planning phase and are involved in the decision-making process, the community will own the program, and they will feel satisfied with the water facility service provided to them. And their satisfaction level will ensure the sustainability of the water supply program. So, the finding of the test is that the higher the level of community participation in the planning of the rural water supply program, the higher the level of user satisfaction, which ensures the sustainability of the water supply program. Pearson's r is 0.962, which is very close to 1, so it is concluded that the variables of community participation in planning and user satisfaction were strongly correlated with each other.

Similarly, the relationship between community participation in execution/implementation and user satisfaction is very strong. The researcher assumed that there is a relationship between community participation in execution and user satisfaction. If community members participate in the execution phase and are involved and monitor the installation and construction of the water supply system, the community will own the program, and they will feel satisfied with the water facility service provided to them, and their satisfaction level will ensure the sustainability of the water supply program. The finding of the test is that the higher the level of community participation in the execution of the water supply program, the higher the level of user satisfaction, which ensures the sustainability of the rural water supply program. Pearson's r is 0.982, which is very close to 1. For this reason, it can be concluded that there is a strong relationship between both variables: community participation in execution and user satisfaction.

Table 5

Community participation and user satisfaction

		User Satisfaction	Community Participation in operation and maintenance
User Satisfaction	Pearson Correlation	1	.892**
	Sig. (2-tailed)		.000
	N	315	315
Community Participation in operation and maintenance	Pearson Correlation	.892**	1
	Sig. (2-tailed)	.000	
	N	315	315
		User Satisfaction	Community Participation in Evaluation
User Satisfaction	Pearson Correlation	1	.892**
	Sig. (2-tailed)		.000
	N	315	315
Community Participation in Evaluation	Pearson Correlation	.892**	1
	Sig. (2-tailed)	.000	
	N	315	315

**Correlations are significant at the 0.01 level

Table 5 presents the relationship between community participation in operation and maintenance and user satisfaction. There is a strong relationship between community participation in operation and maintenance and user satisfaction. The change in one variable is strongly correlated with changes in the second variable. If community members participate in the operation and maintenance phase and are involved in developing operation and maintenance mechanisms, water tariff, and financial management for the water supply system, the community will own the program, and they will feel satisfied with the water facility service

provided to them and their satisfaction level will ensure the sustainability of water supply program. The finding of the test is that the higher the level of community participation in the operation and maintenance of the water supply program, the higher the level of user satisfaction, which ensures the sustainability of the rural water supply program. As Pearson's r is 0.892, this number is very close to 1. For this reason, it can be concluded that there is a strong relationship between community participation in operation and maintenance and user satisfaction.

Similarly, the relationship between community participation in evaluation and user satisfaction strongly existed. If community members participate in the evaluation phase and are involved in handing over the process when all technical and social services have been implemented and handed over to the community and CBO for further management of the water supply system, the community will own the program, and they will feel satisfied with water facility service provided to them and their satisfaction level will ensure the sustainability of water supply program. The finding of the test is that the higher the level of community participation in the evaluation of rural water supply programs, the higher the level of user satisfaction. As Pearson's r is 0.892, this number is very close to 1. For this reason, it can be concluded that there is a strong relationship between user community participation in the evaluation of rural water supply programs and user satisfaction.

Conclusion

The sustainability of the water supply system is strongly associated with the effective participation of the community and key stakeholders, as well as the high capacity of the communities and committees in the operation and maintenance of water systems and management of water resources. Moreover, the literature revealed that community-driven programs like water supply projects were considered more sustainable and functional. The findings of the study intimated that since community participation in planning has a significant impact on the sustainability of water supply programs, it implies that the water management committees, donors, and the government officials providing water facilities to the community hold prior consultations with the community members before the water program are deliberated, more so community members and all stakeholders of the community are involved and informed in decision making when designing the project structure, location of water standpoints, determining the source of water among other key issues, formation of water management committees as well and ensuring maximum participation to make the program more sustainable.

The study further concludes that community participation in the execution/implementation phase of water supply programs has a significant impact on the sustainability of water supply programs. During the execution of the water supply program, the community provided cash, labor, and local construction materials and also conducted construction supervision and monitored that the executing agency was installing pumping machinery at its designated location and installing pipelines in streets as per design and mapping of villages.

The study also concludes that community participation in the operation and maintenance phase also has a significant impact on the sustainability of water supply programs. During this phase, community members were fully informed and mobilized about the monthly water tariff as the water management committee has to pay the electricity bill to keep the water facility functional, so community members were mobilized, and community members considered water charges affordable, that they will pay monthly water charges regularly as it is directly linked to the sustainability of water facility.

The study concludes that community participation in the evaluation phase also has a significant impact on the sustainability of water supply programs. Data revealed that the community fully participated while the water program was handed over to them, and they were very satisfied with the technical and social services provided to them.

The study also concludes that all community participation in the planning, execution, operation maintenance, and evaluation of water supply programs ultimately provides water facility users a greater level of satisfaction, which has a significant impact on the sustainability of water supply programs. As communities give their input in the shape of participation, they feel satisfied with the technical and social services provided to them, and community members feel satisfaction over the quality and quantity of

water, monthly water charges, and overall performance done by the water management committee. Their level of satisfaction is a success in the sustainability of the water supply program.

However, the study concludes that the executing agency and water management committee ensured their provision of services fully participated in every step and involved community members in the planning, execution, operation maintenance, and evaluation of water supply programs, which resulted in a successful, functional and sustainable water facility for communities in rural areas.

Recommendations

- As it was found in the study, community participation in planning has an impact on the sustainability of rural water supply programs. Therefore, this study recommends that the executing agency take into consideration all community stakeholders in planning and designing the program.
- The study also recommends that pre-capacity building sessions be conducted before the implementation of the water supply program. Communities should be given information about construction supervision, provision of labor, and sharing of their resources.
- The committee members should be accountable and transparent to the project members to maintain the goodwill of the members and continuously participate in the provision of implementation resources. They should also ensure the participation of the community in the execution phase of the water supply program.
- The executing agency also gives financial support to the committee in case any major technical fault happens, like theft of an electricity transformer, leakage or damage of main pipelines, or damage or failure of water bore and pumping machinery.
- Females are an important part of the community and are directly linked to the use of water in households. So, community awareness of the importance of female participation needs to be developed so that their participation would have a chance to turn into active contributors, enabling them to take advantage of their roles.
- Legal protection should be provided to the committee so that nobody can misuse and steal any component of the water facility.

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