

EMPOWERING COMMUNITIES: UNRAVELING THE NEXUS OF SOCIOECONOMIC STATUS AND GENDER DYNAMICS IN ACCESS TO DRINKABLE WATER IN OKARA

Dr. ARFAN LATIF

Assistant Professor Sociology University of Okara.

Email: arfanlatif9292uo.edu.pk

MS. NUSRAT AZIZ

MPhil Scholar, University of Okara

Email: nusratazizbhatti@gmail.com

DR. MUHAMMAD ABDULLAH

Assistant Professor of Sociology, Lahore Leads University

Email: hod.sociology@leads.edu.pk

DR. RUKHSANA BASHIR

ASSITANT PROFESSOR, INSTITUTE OF SPCECIAL EDUCATION, UNIVERSITY OF THE PUNJAB, LAHORE, PAKISTAN

Email: rukhsana.dse@pu.edu.pk

ABSTRACT

This research delves into the nuanced dynamics at play in the correlation between socioeconomic status and access to potable water, recognizing the fundamental right of every individual to secure and safe drinking water. Regrettably, a significant proportion of households in Pakistan, particularly in Okara, grapple with a dire shortage of safe drinking water, exacerbating existing disparities based on socioeconomic status. Economic inequalities emerge as pivotal determinants, as impoverished communities face challenges in establishing essential infrastructure and accessing clean water sources due to financial constraints. The study also underscores the impact of social factors, including education, gender, and cultural norms, which further intensify the complexities of water access disparities. Of particular focus is the gendered dimension, elucidating the challenges women face in water fetching, often juggling multiple responsibilities at home. Employing a case study design and utilizing in-depth interviews with eight women and six men from diverse regions of Okara, Pakistan, this research unravels the intricate relationship between socioeconomic status and access to potable water. The findings reveal a multifaceted interplay influenced by diverse contextual factors. By shedding light on these complexities, this study aspires to contribute meaningful insights for policymakers, researchers, and practitioners dedicated to advancing water equity and social justice in Okara and beyond."

Background

It is crucial for human life to have access to clean, drinkable water. However, millions of people worldwide lack access to clean and safe water. The World Health Organization (WHO) estimates that 2.2 billion people worldwide lack access to clean drinking water, and that inadequate water supplies and subpar sanitation cause 829,000 deaths annually. Poor people and communities are particularly impacted by the issue of access to clean water, which is frequently linked to socioeconomic status (SES). The relationship between SES and access to clean water has been extensively studied. Several studies have found that low-income individuals and communities are disproportionately affected by water scarcity and poor water quality (Howard et al., 2019; Akinyemi et al., 2021). In the United States, for example, communities of color and low-income neighborhoods are more likely to experience water contamination and supply disruptions (Ranganathan et al., 2018). In developing countries, low-income communities are more likely to rely on unsafe sources of water, such as surface water, which increases the risk of waterborne diseases (Bain et al., 2014).

The effects on people and communities of not having access to clean water are extensive. Lack of access to clean water increases the risk of hunger, stunted growth, and delayed cognitive development in children (Prüss-Ustün et al., 2019). The burden of water scarcity and poor water

quality falls disproportionately on women and girls, who are often responsible for collecting water, a task that can take several hours each day and limit their opportunities for education and economic empowerment (Chaplin-Kramer et al., 2021). The root causes of water shortage and poor water quality, especially those relating to SES, must be addressed in order to increase access to clean water. The social and economic variables that lead to water insecurity, such as poverty, unfair resource distribution, and inadequate infrastructure, should be included in interventions aiming at increasing water availability and quality (UNICEF, 2019). In many rural areas of Pakistan, the lack of clean drinking water sources contributes to the high incidence of waterborne diseases, further exacerbating existing socio-economic disparities (Shaheed et al., 2014). The lower socio-economic status of many rural communities in Pakistan has direct implications on their ability to access clean drinking water. The lack of financial resources often prevents these communities from investing in water infrastructure projects, which could potentially improve the quality and availability of water (Biswas & Tortajada, 2019). Additionally, limited access to education and information may hinder their capacity to adopt appropriate water treatment and storage practices, increasing the likelihood of waterborne illnesses (Javed et al., 2020).

Socioeconomic Status and Water Quality and Availability

Water is a precious resource that is necessary for both economic growth and human survival. Water quality and accessibility are impacted by a number of variables, including socioeconomic status (SES). A community's or an individual's SES is a gauge of their economic and social standing in society. Low SES has been linked to a lack of access to clean water sources and poor water quality (Rahman et al., 2018). Compared to their high SES counterparts, low SES populations are more prone to encounter issues with water quality. For instance, lead and arsenic pollutants in drinking water are more prevalent in low-income regions in the United States (Frumkin & Coussens, 2005).

Similarly, low SES communities in developing countries are more likely to use contaminated water sources such as rivers, ponds, and wells (WHO, 2014). These contaminated water sources can lead to waterborne diseases, which are a significant public health concern in low-income communities. The impact of SES on water availability is also significant. Low SES communities are more likely to experience water scarcity than high SES communities. Low-income communities in developing countries are more likely to rely on unprotected and unreliable water sources such as shallow wells and rainwater harvesting (Sánchez-Triana et al., 2018). Due to the vulnerability of these water sources to climate change and natural disasters, there would be a shortage of water and less availability to safe water.

Policymakers and stakeholders should concentrate on enhancing access to safe water sources and addressing the underlying causes of water shortage and contamination in order to alleviate the impact of SES on water quality and availability. By giving low-income areas access to piped water and increasing water treatment, this can be accomplished through investments in water infrastructure, education, and community participation (UN Water, 2019). This will assist to improve water quality and lower the risk of contracting waterborne diseases.

Water Scarcity a Global Challenge

Over 2.2 billion people worldwide are impacted by the urgent global problem of water scarcity (UNESCO, 2021). A mix of natural and human factors, including climate change, population expansion, urbanization, and inadequate water management practices, contribute to the multidimensional problem of water scarcity (WHO, 2019). According to UNESCO (2021), the demand for freshwater is expected to increase by 20-30% by 2050, while climate change is likely to exacerbate the problem by altering precipitation patterns and causing more frequent and severe droughts. This underscores the urgent need for effective and sustainable solutions to address water scarcity and ensure water security for all.

The impact of water scarcity on people's lives and livelihoods cannot be overstated. Lack of access to clean water and sanitation facilities is a leading cause of illness and death in many

developing countries (WHO, 2019). Women and girls are disproportionately affected by water scarcity as they often bear the responsibility of fetching water, which can take hours each day and prevent them from attending school or engaging in income-generating activities (UN Women, 2021). In addition, water scarcity can exacerbate social and political tensions, particularly in regions where water resources are shared by different countries or communities (UNESCO, 2021).

Gender and Access to Clean Water

Having access to clean water is essential for the survival of people and communities all around the world. The Sustainable Development Goal 6 of the UN, which aims to provide access to and sustainable management of water and sanitation for all, has emphasized gender equality as a critical component. Sadly, gender disparities frequently have a big impact on who has access to safe water. According to studies, women are disproportionately harmed by the lack of access to sanitary facilities and clean water, and they are especially vulnerable in underdeveloped nations (Baker et al., 2018). This disparity can have significant social and physical impacts on women's well-being. Gender differences in water access continue to persist, with women and girls being disproportionately affected. According to the United Nations, women and girls spend an estimated 200 million hours per day collecting water in developing countries (United Nations, 2021).

This unequal burden limits their opportunities for education, employment, and other activities that contribute to their socio-economic empowerment. Women's health is impacted by gender disparities in water access. The physically taxing duty of delivering water falls primarily on women and girls in many poor nations. Musculoskeletal issues, exhaustion, and other health issues can result from this. The risk of infectious diseases like cholera and diarrhea can also rise because of inadequate sanitation and hygiene practices brought on by a lack of access to clean water. Women and girls are often the primary caretakers of sick family members, which can further limit their ability to engage in other activities. Research has shown that gender norms and roles within households and communities can influence water access for women. Women are typically in charge of household duties like cooking, cleaning, and water fetching. This expectation can limit their ability to pursue other activities, including education and income-generating opportunities. A study conducted in Nepal found that women who had access to water closer to their homes were more likely to engage in income-generating activities (Bhattarai & Ojha, 2020).

Role of Pakistan's Government to Ensure Clean Water Access

About 70% of Pakistan's population lacks access to clean drinking water, according to the Pakistan Council of Research in Water Resources (PCRWR). In order to guarantee that the populace has access to clean, safe water, the Pakistani government plays a critical role. First off, the Pakistani government has taken a number of steps to guarantee that its inhabitants have access to safe water. The National Drinking Water Policy, which was established in 2009 and aims to provide clean drinking water to all Pakistani people, is one of the significant actions performed by the government. In order to provide citizens with clean water, the government has also started a number of water supply and sanitation projects across the nation.

Moreover, the government has established several regulatory bodies to ensure that water quality standards are maintained. The Pakistan Environmental Protection Agency (Pak-EPA) is responsible for monitoring water quality and ensuring compliance with environmental laws and regulations. Similarly, the Pakistan Council of Research in Water Resources (PCRWR) is responsible for conducting research on water resources and providing technical support to the government in developing policies and strategies for water management.

Objectives of the Study

1. To find out how socio-economic status and gender is related with access to clean drinkable water

Methods and materials

The current study was conducted under the broader framework of qualitative research. The research design of the study is exploratory research as the topic is unique and directed towards finding out the in-depth understanding regarding socio-economic status, gender and access to clean drinkable water (Creswell, 2012). Therefore, qualitative research and exploratory research design are most appropriate for this study. The researcher applied phenomenological research technique as the research method for the current study as it focused on the lived experience by the women accessing clean drinking water (Groenewald, 2004).

The population of the study comprised of the rural areas of the Okara district. This district is quite vulnerable with regard to the access to clean drinkable water and researcher selected as sample size of 15 female from the rural areas selected through purposive sampling technique. Such type of sampling technique is very relevant in qualitative studies hence; researcher in the current study applied this technique. For the purpose of the data collection, an interview guide was framed with open-ended responses.

The analysis of the study was based on thematic schemes and researcher applied Interpretive Phenomenological Analysis (IPA) technique to gather and fetch relevant themes.

Analysis and Findings of the Study

Following are the important themes of the current study that explain and outline in-depth understanding of the topic i.e. gender, socio-economic status and access to clean and drinkable water.

Socioeconomic Status and Water Access Disparities

Every human being has the fundamental right to the best standard of health, regardless of his or her ethnicity, religion, political opinions, economic status, or social circumstance, according to a concept contained in the World Health Organization's (WHO) 1946 Constitution. This idea is strongly related to the moral ideal of health equity. Health inequalities are defined as variations in health that are avoidable, needless, unfair, and unjust (Whitehead, 1992). The ethical importance of health fairness was successfully brought up in Whitehead's article, and discussions about it have since begun. It implies that all social groups should have an equal chance to be healthy, necessitating a fair distribution of resources and initiatives to reduce health inequalities between disadvantaged and privileged social groups.

One of the most important social factors affecting health is having access to clean water. Population groups that are already socially marginalized owing to issues like poverty, gender, race, ethnicity, or religion are further harmed by disparities in access to clean drinking water. Comparing the degree of access between social groups with greater and lesser advantages is necessary to evaluate access to safe drinking water discrepancies. As a starting point for creating or updating public health policies targeted at providing sustainable water supply systems to those who do not already have access, understanding socio-economic gaps in access to clean drinking water is important. One of the key contributors to the disparities in water infrastructure is the uneven distribution of resources. In many cases, marginalized communities and low-income areas lack the necessary infrastructure for reliable water supply and sanitation services. Public investment in water infrastructure tends to be disproportionately directed towards affluent neighborhoods, perpetuating the divide between the haves and the have-nots. This leads to a scenario where individuals with higher socioeconomic status are more likely to enjoy clean water, while those in impoverished areas suffer from inadequate access, increasing their vulnerability to waterborne diseases. This study presents evidence regarding the disparities in access to safe drinking water among residents of Okara. Most of the participants agreed on this point that due to their limited resources and living in rural area they lack the facility of clean and safe water. Participant 7 expressed her feelings with heavy heart:

Water that comes in our tab at home is unclean and unhealthy. We used to drink it for many years but then someone (a rich man) installed a filter plant and fixed a tab outside of his house, now we filling water from that tab but it's quite far from here that most of the time we cannot go there

and have to drink water of our tap, what we do? We don't have enough resources to arrange clean water and truth is that nobody helps poor people. Every facility is enjoyed by rich and everything is for them.

Participant 3 told:

Nobody takes care of the poor no state no government. Everybody is protecting his/her own rights and they don't invest money on the development in poor areas. I am a poor man and do labor, it's hard for me to meet the expenses of my family, to access clean water I to travel the distance of 30 minutes, it seems a burden sometimes. Many people in our area requested the local government to install a filtered plant in our community. They just make promises to get vote nothing else.

Participant 10 shared her struggle to get clean water, she stated:

As a poor woman I have personally endured the harsh realities of socioeconomic disparities when it comes to accessing clean water. Every day, I wake up with the daunting task of securing water for my family's basic needs. With limited financial resources and a lack of proper infrastructure in our community, clean water is a luxury we cannot afford. I find myself walking long distances under scorching sun, carrying heavy containers, searching for a reliable water source.

The above statements reveal that Disparities in water infrastructure and services based on socio-economic status perpetuate a cycle of inequality, compromising the well-being and health of marginalized communities. Achieving universal access to clean water requires concerted efforts to address the underlying causes, including unequal distribution of resources and affordability barriers. By implementing targeted policies, investing in infrastructure, and promoting sustainable water management, societies can bridge the divide and work towards a future where access to safe water is a universal right, not a privilege based on socioeconomic status.

Vulnerable Groups and Waterborne Diseases

People's health is significantly harmed by a lack of access to clean water, sanitary facilities, and good hygiene. This is evident as approximately 768 million individuals worldwide rely on a drinking water supply that is contaminated with fecal matter (Pruss-Ustun et al., 2014). The significant negative effects on health caused by inadequate access to water include the spread of diseases associated with water, such as diarrhea, cholera, dysentery, intestinal worms, trachoma, typhoid, and schistosomiasis.

Waterborne illnesses are a major global health concern, especially for weaker populations like children and women. The risks that these people confront are increased by a lack of access to clean water, with disastrous effects on their health and wellbeing.

Access to potable water continues to be a major issue in many developing areas. Due to socio-cultural variables and gender inequities, children and women frequently face the burden of this problem. Women usually have to go great distances or rely on contaminated sources in order to collect water for their homes. This raises their risk of getting sick by exposing them to watery germs. Similar to adults, children have weakened immune systems and consume more water than adults do relative to their body weight, making them more vulnerable to waterborne infections.

Children, especially those under five years old, face severe health consequences when exposed to waterborne diseases. Diarrheal diseases, such as cholera and rotavirus infections, are major causes of morbidity and mortality among children in impoverished areas. In addition to the physical toll, these illnesses hinder children's growth, development, and cognitive abilities, perpetuating the cycle of poverty and inequality.

Women play a crucial role in water-related activities within households and communities. The burden of fetching water from distant or contaminated sources falls disproportionately on them, leading to increased physical exertion and time poverty. The susceptibility of children and women to waterborne diseases has broader implications for society. Families with sick children face economic hardships due to healthcare expenses and missed workdays. Moreover, the absence of healthy and productive women impacts community development and perpetuates gender inequalities. Addressing these disparities requires a comprehensive approach that encompasses improved access to clean water, sanitation facilities, and hygiene education.

Every participant agreed that lack of clean water is a greater risk for waterborne diseases especially for women and children and most of the participants had faced the negative consequences due to inadequate water access.

Participant 10 shared her feelings, she stated that:

My son is suffering from severe diarrheal issue from last two months, he is on medication, doctors asked to use mineral water as our water is contaminated. It is so difficult for me to arrange mineral water on daily basis because I am a divorced woman and has limited economic resources and running a canteen. Being a mother it's my responsibility to take care of children so, I do but it is really difficult to arrange everything so lack of adequate water is a major problem.

Participant 1 shared her experience she said:

I am a hepatitis patient and suffering from this disease from last two years, sometimes I don't feel really good but I am dealing with the household stuff, I need to cook, cloth washing and I go to fetch water from outside, because I have no option rather than this. Doctor says me to take rest and particularly use clean bottled water, but practically this thing cannot be possible because of my husband's limited income and the quality of water we use is not satisfactory but we have to compromise with it.

Participant 9 added her experience with heavy heart:

I have a daughter of 3 years and she doesn't remain well most of the times and diagnosed with intestinal worms, it might be due to the water we use for drinking.

Children and women are disproportionately affected by waterborne diseases due to the lack of clean water and inadequate sanitation infrastructure. The physical, social, and economic burdens imposed on these vulnerable groups hinder their overall well-being and contribute to cycles of poverty. To combat this issue, governments, international organizations, and communities must work together to prioritize investments in clean water infrastructure, sanitation facilities, and hygiene promotion programs. By empowering children and women with access to clean water, we can break the cycle of disease, inequality, and poverty, leading to healthier and more prosperous communities.

Economic Implications and Productivity Loss

Unclean water sources have significant economic implications and can lead to substantial productivity losses. Unclean water is a breeding ground for waterborne diseases such as cholera, typhoid, and dysentery. The resulting health burden leads to increased healthcare expenses, reduced workforce participation, and decreased productivity. Individuals suffering from water-related illnesses experience physical discomfort, reduced energy levels, and impaired cognitive function, hindering their ability to contribute fully to the economy.

Lack of clean water impacts workforce productivity in various ways. Firstly, the prevalence of waterborne diseases results in increased absenteeism as individuals fall ill or must care for sick family members. This absenteeism disrupts work schedules, reduces output, and hampers economic growth. Secondly, even when individuals are present, their diminished health and physical discomforts reduce their ability to perform at optimal levels, leading to lower efficiency and output. The cumulative effect of these factors is a significant loss in productivity.

Most of the participants told that how they deal with the diseases due to the unclean water within their limited budget. It becomes really tough for them and they have to struggle hard to fulfill their responsibilities.

Participant 3 stated:

For me it is really tough even to feed my children, and when it comes to diseases at home it becomes worse to manage because I cannot to go to my work at that day to go to hospital, I am a daily waged labor and believe me, living my life hardly almost hand to mouth. So clean water availability is much needed for us.

Participant 14 shared his experience, he said:

My wife doesn't remain well, she has stomach ulcer and liver infection, so this problem is worsening due to the unavailability of clean water. The most important thing is her treatment is so expensive and I hardly able to meet the expenses plus follow-up checkup, I have to go to hospital with her thrice in a month, so at that day I have to keep close my shop, ultimately bear productivity loss in those days.

Above findings reveal that unclean water has far-reaching economic implications, leading to substantial productivity losses and hindering economic development of the people. The health burden, increased healthcare costs, reduced workforce productivity, and adverse impact on education all contribute to perpetuating poverty cycles and stifling economic growth. Addressing the issue of unclean water requires comprehensive strategies that involve improving water infrastructure, promoting hygiene and sanitation practices, and prioritizing access to clean water as a basic human right. By investing in clean water solutions, government and society can mitigate economic losses, improve public health, and pave the way for sustainable economic development.

Gendered Challenges of Fetching Water

In numerous developing nations, the primary duty of collecting water falls upon women. The absence of adequate water and sanitation facilities further affects women's lives, as they bear the responsibility of caring for children who are susceptible to diseases associated with water, sanitation, and hygiene.

Sometimes, women lack the necessary financial means to meet expenses related to purchasing water, its treatment, or making new investments (UNICEF, 2014).

The gendered challenges of fetching water have been a longstanding issue in many parts of the world, particularly in developing countries. The unequal distribution of responsibilities and the disproportionate burden placed on women and girls in accessing clean water for their households. While water fetching may seem like a basic task, it has far-reaching implications for gender equality, social development, and the overall well-being of communities.

One of the primary challenges faced by women and girls in fetching water is the physical toll it takes on their bodies. In many cases, they have to travel long distances, often on foot, to reach the nearest water source. Carrying heavy containers filled with water over such distances can lead to chronic back pain, musculoskeletal injuries, and other health issues. The physical strain of water collection not only affects women's well-being but also limits their ability to engage in other productive activities or pursue education.

Furthermore, the time and effort invested in fetching water disproportionately affect women's economic opportunities. The hours spent walking to and from water sources, waiting in long queues, and carrying heavy loads translate into lost productivity. This limits their ability to participate in income-generating activities, seek employment, or receive education. Consequently, women face a higher risk of poverty and economic dependence, perpetuating the cycle of gender inequality and reinforcing traditional gender roles.

The safety and security risks associated with water collection cannot be overlooked. Women and girls are vulnerable to harassment, sexual assault, and violence during their journeys to distant water sources, particularly when they have to travel alone or in secluded areas. This exposes them to

significant physical and psychological harm and contributes to a pervasive culture of fear and insecurity.

Almost every female participant highlighted their issues of fetching water and how their physical and social well-being is affected by this activity.

Participant 8 told that how she manages her daily routine and bring water also, she said:

To fill water from outside of your house is a hectic job particularly for female especially in summer, being a woman you have a lot of responsibilities at home but water is an essential thing, I go to fetch water and travel the distance of 30 minutes on my feet, I am facing health issues also so, it is difficult to manage, sometimes I ask my son but he has to go to school and then tuition so mostly this job is done by me.

Participant 6 shared a sad story:

Me and my daughter we both go to fetch water because my husband goes to his work early in the morning and comes back late at night, so usually I am managing everything at home so, water is also my responsibility. Once I asked my daughter to go to fill water as I wasn't feeling well at that day, when she came back and told me that a group of boys who were there tried to harass me but, fortunately I succeeded to escape. After this incident I never asked her to go alone.

Participant 9 stated that:

Many times I hear bad comments when I go to fill water because men and women both are there and filling water so, now these things are the part of my routine I just ignore.

Above statements reveal that the gendered challenges of fetching water represent a significant obstacle to gender equality and women's empowerment. By recognizing and addressing the physical, economic, educational, and safety-related issues associated with water collection, societies can take meaningful steps towards achieving gender equality and improving the overall well-being of communities.

Policy and Interventions for Clean Water Security

The Pakistani government has recognized the importance of clean water security and has implemented several policies to address the issue. The National Drinking Water Policy (2009) and the Pakistan Vision 2025 provide a comprehensive framework for improving water quality and access in both urban and rural areas. These policies emphasize the provision of safe drinking water, infrastructure development, and capacity building at the local level. However, despite these efforts, the implementation of policies has been inconsistent and lacks strong enforcement mechanisms.

One of the key challenges in ensuring clean water security in rural areas is the lack of adequate infrastructure. Many rural communities rely on outdated and poorly maintained water supply systems, leading to contamination and limited access. While the government has initiated infrastructure projects such as tube wells and hand pumps, there is a need for more sustainable and scalable solutions. Greater investment in piped water supply systems, rainwater harvesting, and water treatment plants can significantly improve water quality and accessibility.

An effective approach to addressing clean water security in rural areas is to involve local communities in decision-making processes. Community participation can help identify water-related challenges, develop appropriate solutions, and ensure the sustainability of interventions. Empowering communities through education and training on water management, hygiene practices, and maintenance of water sources can enhance their capacity to maintain clean water supplies in the long run.

Regular monitoring and surveillance of water sources are critical to ensuring water quality standards are met. However, in rural areas of Pakistan, monitoring mechanisms are often weak or nonexistent. Strengthening the capacity of local authorities to conduct water quality testing, implementing a robust surveillance system, and disseminating information to communities about the results are essential steps in ensuring clean water security. Additionally, awareness campaigns can educate the public about the importance of safe water practices and promote behavioral changes.

Every participant emphasized that to ensure the clean water accessibility in our areas, strong policies and their implementation is much needed to solve this issue.

Participant 12 explained his stance regarding this matter:

We have policies but no implementation and monitoring of them, if we want to overcome this problem we need to make strong policies regarding clean water security for all and proper evaluation of them and clean water should be available to everyone at their home and quality of water should be checked monthly or at least after three months.

Participant 13 added further, he said:

Water is everything, we shouldn't compromise on its quality, that comes in our taps is contaminated and we didn't know it for so longer, this is basically the lack of strong policies and their implementation, but when we came to know about it we started to avoid to drink it and now we fill water from a filtered plant installed by a rich person of our area, we are not satisfy with its quality too but what to do? So strong measures should be taken to cope up with this problem.

Participant 8 shared her views:

More filtered plants should be installed and water quality should be checked.

Clean water security should prioritize equity and social inclusion to address the needs of marginalized communities, including women, children, and ethnic minorities. Gender-responsive interventions that involve women in decision-making and promote their access to water resources can have significant positive impacts on community health and well-being. Additionally, ensuring the provision of clean water in schools, healthcare facilities, and other public spaces is crucial to promoting equal opportunities and reducing health disparities.

While efforts have been made to address clean water security in rural areas of Pakistan, significant challenges persist. Policymakers and stakeholders should focus on strengthening the policy framework, investing in sustainable infrastructure, fostering community engagement, improving water quality monitoring, and promoting equity and social inclusion. Collaboration among government agencies, civil society organizations, and international partners is essential for implementing effective interventions and achieving long-term clean water security in rural Pakistan. By prioritizing these critical areas, Pakistan can work towards ensuring a healthier and more prosperous future for its rural population.

Conclusion

This research investigates the intricate relationship between socioeconomic status and access to drinkable water in Okara, recognizing the profound impact of economic disparities on water accessibility. The study emphasizes the global significance of this issue, particularly in impoverished nations where a significant portion of the population lacks reliable access to safe drinking water. It highlights the multifaceted challenges faced by individuals from lower socioeconomic backgrounds, encompassing inadequate water infrastructure, financial constraints, educational disparities, and intersecting forms of marginalization. The research underscores the need for targeted interventions, such as improved governance, policy initiatives, and international collaboration, to address the root causes of these disparities and ensure universal access to clean and safe drinking water. Ultimately, the study advocates for a comprehensive and multidimensional approach to tackle socioeconomic barriers, promoting equity and justice in water accessibility on a global scale.

References

- Akinyemi, O. O., Obayelu, O. A., & Omonona, B. T. (2021). Access to safe drinking water in rural communities of Nigeria: Implications for poverty reduction and sustainable development. *Journal of Environmental Management*, 282, 111937.
- Al-Ansari, N., Mohammed, M., Abdellatif, M., Ebraheem, A., & Hassan, T. (2020). Water resources and its management in Qatar. *Water*, 12(6), 1629.
- Bain, R., Cronk, R., Wright, J., Yang, H., Slaymaker, T., & Bartram, J. (2014). Fecal contamination of drinking-water in low-and middle-income countries: A systematic review and meta-analysis. *PLoS medicine*, 11(5), e1001644.

- Bartram, J., Brocklehurst, C., Fisher, M. B., Luyendijk, R., Hossain, R., & Wardlaw, T. (2018). Global monitoring of water supply and sanitation: History, methods, and challenges. *International Journal of Environmental Research and Public Health*, 15(12), 2775. doi:10.3390/ijerph15122775
- Bhattarai, B., & Ojha, H. (2020). Household water insecurity, women's work burden, and income-generating activities: Empirical evidence from rural Nepal. *World Development*, 135, 105066.
- Biswas, A. K., & Tortajada, C. (2019). Water management in rural areas: Pakistan. *Journal of Water, Sanitation and Hygiene for Development*, 9(2), 233-245. <https://doi.org/10.2166/washdev.2019.117>
- Chang, T., Ravi, N., Plegue, M. A., Sonnevile, K. R., Davis, M. M., & Levy, P. D. (2013). Water consumption and weight loss among overweight and obese adults in a primary care setting: a randomized controlled trial. *Obesity*, 21(9), 1785-1791.
- Chaplin-Kramer, R., Sim, S., Hamel, P., Bryant, B. P., Noordewier, T., & Mueller, C. (2021). Economic and ecological outcomes of managing water for sustainable development. *Proceedings of the National Academy of Sciences*, 118(7).
- Creswell, J. (2012). *Education research: Planning, conducting and evaluating quantitative and qualitative research* (4th Ed.). Upper Saddle River, NJ Pearson education.
- Foster, V., Wodon, Q., & Skoufias, E. (2022). Water and poverty in developing countries: Evidence from cross-country data. *World Development*, 152, 105511.
- Frumkin, H., & Coussens, C. (2005). Low-income communities and the environment. *Annual Review of Public Health*, 26, 113-133.
- Groenewald, T. (2004). A Phenomenological Research Design Illustrated. *International Journal of Qualitative Methods*, 3(1), 42-55.
- Howard, G., Bartram, J., & Boisson, S. (2018). Water, sanitation, and hygiene standards in schools: Findings from a systematic review. *International Journal of Hygiene and Environmental Health*, 221(6), 936-949. doi:10.1016/j.ijhe.2018.05.004
- Howard, G., Bartram, J., Brocklehurst, C., & Schaub-Jones, D. (2019). Water, sanitation and hygiene in emergencies and outbreaks
- Javed, A., Shaheen, N., & Anjum, M. (2020). Water and sanitation challenges in rural areas of Pakistan: A case study of district Faisalabad. *Environment, Development and Sustainability*, 22(7), 5511-5525.
- Khan, A. A., Ma, X., Awan, A. A., & Li, Y. (2020). Socioeconomic Inequalities in Drinking Water Access in Pakistan: An Analysis of National Survey Data. *International Journal of Environmental Research and Public Health*, 17(4), 1324. doi:10.3390/ijerph17041324
- Kumar, A., & Singh, R. D. (2017). Socio-economic disparities in access to improved drinking water supply and sanitation in India. *Journal of Water and Health*, 15(5), 775-790. doi:10.2166/wh.2017.131
- Liamputtong, P. (2009). *Qualitative research methods*. Oxford University Press.
- Nauges, C., & Strand, J. (2017). Water hauling and girls' school attendance: Some new evidence from Ghana. *Journal of Development Economics*, 126, 38-53. doi:10.1016/j.jdeveco.2017.03.005
- Rahman, A., Hossain, M. A., & Siddiquee, M. A. (2018). The impact of socio-economic status on water quality: A case study in the Buriganga River, Bangladesh. *Journal of Environmental Science and Natural Resources*, 11(1), 73-80.
- Sánchez-Triana, E., Enriquez, S., Paredes, J. D., Tippett, J., & Smith, V. (2018). Water scarcity, risk and vulnerability: An overview of the water scarcity and vulnerability assessment (WSVA) framework. World Bank Group.
- Shaheed, A., Orgill, J., Ratana, C., Montgomery, M. A., Jeuland, M. A., & Brown, J. (2014). Water quality risks of 'improved' water sources: evidence from Cambodia. *Tropical Medicine & International Health*, 19(2), 186-
- Smith, J. (2018). *Qualitative Research Methods: A Practical Guide*. Sage Publications.
- Sutherland, L., Cameron, J., Vargo, J., Chapman, H., & Macgregor, C. (2020). Empowering communities for water governance: Lessons from a participatory research project in Western Australia. *Land Use Policy*, 99, 104933. doi:10.1016/j.landusepol.2020.104933
- UN Water. (2019). Water and Jobs. Retrieved from https://www.unwater.org/publication_categories/water-and-jobs/
- UN Women. (2021). Water and Sanitation. Retrieved from <https://www.unwomen.org/en/news/in-focus/water-and-sanitation>
- UNDP. (2021). Sustainable Development Goals. Retrieved from <https://www.undp.org/content/undp/en/home/sustainable-development-goals.html>
- UNESCO. (2021). Water Scarcity. Retrieved from <https://en.unesco.org/themes/water-security/human-development/water-scarcity>
- United Nations. (2021). Sustainable Development Goals: Clean Water and Sanitation.