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INVESTIGATING THE ATTITUDE OF OFFA RESIDENTS IN KWARA STATE NIGERIA TOWARDS CLEAN WATER AND SANITATION (SDG6)

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ABSTRACT: The Sustainable Development Goals (SDGs) were introduced in 2015 to achieve 17 global objectives. Among these, Goal 6, which focuses on Clean Water and Sanitation, aims to ensure access to adequate sanitation and sustainable water management for all by 2030. This study investigates the knowledge, perceptions, and attitudes of residents in Offa Local Government Area (LGA) toward achieving the targets of SDG 6 by 2030. A Survey Research Method was employed, utilising Purposive and Availability Sampling Techniques to gather responses from 176 participants through an e-questionnaire. The sample size was determined using the formula by Saunter et al. (2009). The findings indicated that residents of Offa hold a positive and forward-thinking attitude toward sustainable water and sanitation practices as they believed it is important for individuals to practice sustainable water management ($\overline{x}$= 4.76), support community initiatives aimed at improving water and sanitation practices ($\overline{x}$= 4.65). Additionally, the study revealed that their attitudes are closely linked to the effectiveness of existing government policies and interventions related to water and sanitation in the region, as the majority of the respondents (167) agreed that they have a positive attitude towards the realisation of SDG 6 on water and sanitation in Offa LGA. Based on these findings, the study recommends increased media campaigns across all Nigerian states to raise awareness of the benefits of clean water and sanitation, helping to reduce health risks and promote well-being for residents.

Keywords: Clean Water and Sanitation, Sustainable Development Goal 6 (SDG 6), Attitude and Perception, Water Management, Government Policies and Interventions

INTRODUCTION

Sustainable Development Goal 6 (SDG 6) seeks to ensure universal access to water and sanitation while promoting their sustainable management by 2030. This goal is fundamental as water and sanitation are indispensable to health, survival, and economic productivity. According to the United Nations (2023), improving access to clean water and sanitation significantly reduces disease prevalence and mortality rates, thereby enhancing the quality of life for millions globally. This study situates the context within Offa Local Government Area (LGA) in Nigeria to explore

the local dynamics surrounding SDG 6. Located in Kwara State, Offa exhibits a mix of urban and rural environments, each with varying degrees of access to clean water and sanitation. Understanding the local knowledge, perceptions, and attitudes concerning these issues is pivotal for devising effective policies and interventions (Ademiluyi & Odugbesan, 2018).

In many regions of Nigeria, including Offa LGA, access to clean water and adequate sanitation remains a significant challenge. The National Bureau of Statistics (NBS, 2021) reports that a large segment of Nigeria's population lacks access to improved water sources and sanitation facilities. Contributing factors such as inadequate infrastructure, rapid population growth, and environmental challenges necessitate an in-depth analysis of local perceptions and attitudes to address these issues effectively.

It is worth noting that an interplay of knowledge, perceptions, and socio-cultural factors influences attitudes toward sustainable water and sanitation practices. Positive attitudes are critical for the successful implementation of water and sanitation initiatives. Research indicates that individuals with favourable attitudes toward sustainability goals are more inclined to adopt behaviours that support these objectives, such as water conservation and proper maintenance of sanitation facilities (WHO, 2017).

Furthermore, several factors shape the knowledge, perceptions, and attitudes of Offa residents toward SDG 6, including socio-economic status, educational attainment, cultural beliefs, and prior experiences with water and sanitation services. For example, households with higher income levels and educational backgrounds often have better access to information and resources, leading to more favourable attitudes toward sustainable practices (Nwankwoala, 2015).

Conversely, marginalised groups frequently encounter greater barriers to accessing clean water and sanitation, which negatively affects their perceptions and attitudes. Community engagement and participation are vital components of adequate water and sanitation initiatives. Involving residents in the planning, decision-making, and implementation processes can enhance the sustainability and impact of such projects. Evidence suggests that community-led initiatives yield improved outcomes regarding the utilisation and maintenance of water and sanitation facilities (Kumar & Kumar, 2019). Consequently, assessing the extent of community involvement in Offa LGA is crucial for advancing SDG 6.

This study underscores the importance of examining residents' knowledge, perceptions, and attitudes toward SDG 6 in Offa LGA to develop targeted interventions that address local challenges. Specifically, it investigates residents' perspectives on the quality of water and sanitation facilities in Offa Local Government Area, Kwara State, Nigeria, within the framework of the United Nations' SDG 6.

Research Questions

What are the attitudes of Offa LGA residents toward sustainable water and sanitation practices?

Hypothesis

H1: Attitude towards SDG 6 associates positively with the effectiveness of existing government policies and interventions on water and sanitation in Offa LGA.

REVIEW OF RELEVANT LITERATURE

Sustainable Development Goal 6 (SDG 6): Clean Water and Sanitation

Sustainable Development Goal 6 (SDG 6) is among the 17 Sustainable Development Goals established by the United Nations in 2015. This goal aims to ensure the availability and sustainable management of water and sanitation for all by 2030. The importance of SDG 6 cannot be overstated, as access to clean water and sanitation is integral to the health, dignity, and prosperity of individuals and communities worldwide (UN, 2023). Achieving SDG 6 is pivotal not only for improving quality of life but also for advancing other SDGs, including those related to health, education, and poverty reduction. SDG 6 encompasses several specific targets and indicators that address various dimensions of water and sanitation. These include achieving universal and equitable access to safe and affordable drinking water, ensuring access to adequate and equitable sanitation and hygiene for all, improving water quality through pollution reduction, enhancing water-use efficiency, implementing integrated water resources management, and protecting and restoring water-related ecosystems (UN, 2023). These targets collectively form a comprehensive framework for sustainable water and sanitation management.

Access to clean water is a fundamental human right, yet millions worldwide still lack reliable access to this essential resource. According to the World Health Organization (WHO) and UNICEF (2022), over 2 billion people globally do not have access to safely managed drinking water services. This lack of access has severe health implications, including the prevalence of waterborne diseases such as cholera and dysentery, which are common in regions with inadequate water supply and sanitation infrastructure. Consequently, improving access to clean water is a cornerstone of SDG 6.

Sanitation is equally critical, as it directly influences public health and environmental sustainability. The United Nations Children's Fund (UNICEF, 2024) reports that nearly 4.2 billion people globally lack access to safely managed sanitation services, including 673 million who continue to practice open defecation. Poor sanitation exacerbates the spread of diseases and undermines efforts to enhance health outcomes. Therefore, achieving adequate and equitable sanitation for all constitutes a key target under SDG 6.

Water quality is another vital element of SDG 6. Pollution stemming from industrial discharge, agricultural runoff, and inadequate wastewater treatment poses substantial threats to water resources. The United Nations emphasises the need to enhance water quality by reducing pollution, eliminating dumping, and minimising the release of hazardous chemicals and materials. Effective water quality management ensures water safety for human consumption and supports healthy ecosystems (UN, 2023).

Efficiency in water use and management is critical to ensuring the sustainability of water resources. SDG 6 underscores the necessity of increasing water-use efficiency across all sectors, especially in agriculture, which accounts for approximately 70% of global freshwater withdrawals (FAO, 2017). Enhancing water efficiency can reduce wastage and safeguard water resources for future generations. This target aligns with broader environmental and economic objectives, promoting sustainable development.

Integrated Water Resources Management (IWRM) represents a holistic approach championed by SDG 6 for sustainable water resource management. IWRM involves coordinating the development and management of water, land, and related resources to optimise economic and social welfare without compromising the sustainability of essential ecosystems (Global Water Partnership, 2000). The implementation of IWRM practices enables countries to address complex water management challenges, including those associated with climate change and population growth.

Community Engagement in Water and Sanitation Projects

Community engagement plays a vital role in the success of water and sanitation initiatives, as it ensures that the needs and preferences of the local population are considered, fostering a sense of ownership and responsibility. Involving community members in the planning, implementation, and maintenance phases of these projects can lead to more sustainable and effective results. The World Health Organization (WHO) stresses that active community participation is critical for achieving lasting improvements in water and sanitation services (WHO, 2021). When communities are directly involved, they are more likely to support and sustain the introduced infrastructure and practices. One major advantage of community engagement is the enhanced relevance and appropriateness of water and sanitation solutions. Local knowledge and insights allow for tailored interventions that reflect the specific cultural, economic, and environmental contexts of a given community. For instance, research by Kusi, Enemark, Hansen, and Asante (2019) in Ghana showed that community-driven approaches led to the adoption of water and sanitation technologies better aligned with local conditions and customs. This localised approach ensures that the solutions are not only technically effective but also culturally acceptable and practically applicable in everyday life.

However, community engagement in water and sanitation projects can encounter several challenges, including limited resources, social and cultural barriers, and internal conflicts. Overcoming these challenges requires a strategic and inclusive approach that builds on existing community structures and utilises local capacities.

Health Implications of Water and Sanitation

The health implications of water and sanitation are profound, thus influencing a wide array of outcomes from the prevalence of infectious diseases to overall public health and well-being. Access to clean water and adequate sanitation is essential for preventing the spread of waterborne diseases such as cholera, dysentery, and typhoid. According to the World Health Organization (WHO), contaminated water and poor sanitation are responsible for approximately 485,000 diarrheal deaths each year (WHO, 2019). These diseases are particularly prevalent in low- and

middle-income countries where infrastructure and resources are often insufficient to ensure safe water and sanitation services.

Improved water and sanitation facilities can significantly reduce the incidence of diarrheal diseases, which are a leading cause of morbidity and mortality among children under five. Studies have shown that interventions such as the provision of safe drinking water, the construction of latrines, and the promotion of hygiene practices like handwashing can decrease diarrheal diseases by up to 45% (UNICEF, 2016). These improvements not only save lives but also enhance the quality of life by reducing the burden of illness and healthcare costs on families and communities.

Water and sanitation also play a critical role in preventing other health conditions, including parasitic infections, respiratory illnesses, and malnutrition. For example, schistosomiasis, a disease caused by parasitic worms, is transmitted through contact with contaminated water. The WHO estimates that at least 220 million people worldwide require preventive treatment for schistosomiasis annually (WHO, 2019). Improved sanitation and safe water practices can disrupt the transmission cycle of such parasites, leading to significant reductions in infection rates.

Environmental Impact of Water and Sanitation Practices

Water and sanitation practices significantly impact the environment, influencing ecosystems, water quality, and resource sustainability. The environmental implications of these practices can be both positive and negative, depending on how water resources are managed and sanitation systems are implemented. Effective management and sustainable practices are essential to mitigate adverse effects and promote environmental health. One major environmental concern is the contamination of water bodies due to improper sanitation practices. Untreated or inadequately treated wastewater and sewage discharge into rivers, lakes, and oceans can lead to severe water pollution. This contamination introduces harmful pathogens, chemicals, and nutrients into aquatic ecosystems, leading to the degradation of water quality and the disruption of aquatic life (WWAP, 2017). For example, excessive nutrients from sewage can cause eutrophication, resulting in algal blooms that deplete oxygen in the water and harm marine life.

In rural areas and informal settlements, open defecation and poorly constructed latrines pose significant environmental risks. These practices can lead to the contamination of surface and groundwater sources, posing a threat to both human health and ecosystems. According to the World Health Organization (WHO), over 2 billion people globally use drinking water sources contaminated with faeces (WHO, 2021). This contamination not only spreads waterborne diseases but also impacts soil and plant health, reducing agricultural productivity and biodiversity. On the other hand, sustainable sanitation systems, such as properly managed septic tanks, constructed wetlands, and ecological sanitation, can minimise environmental harm. These systems treat and recycle wastewater, reducing the risk of contamination and promoting the safe reuse of water and nutrients. For example, ecological sanitation (EcoSan) approaches treat human excreta as a resource, transforming it into safe, usable products like compost and biogas (Esrey et al., 2001). Such practices support nutrient cycling, soil fertility, and renewable energy production, contributing to environmental sustainability.

Water extraction for drinking, irrigation, and industrial use can also have significant environmental impacts. Over-extraction of groundwater and surface water resources can lead to the depletion of water bodies, reduced flow in rivers, and degradation of aquatic habitats (Gleeson et al., 2020).

Theoretical framework

Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB), developed by Icek Ajzen, extends the Theory of Reasoned Action by adding the concept of perceived behavioural control (Ajzen, 1991). TPB asserts that three factors influence behavioural intentions:

1. Attitude Toward the Behaviour: The extent to which a person holds a favourable or unfavourable evaluation of the behaviour in question.
2. Subjective Norms: The perceived social pressure to either perform or refrain from performing the behaviour.
3. Perceived Behavioural Control: The perceived ease or difficulty of performing the behaviour, which is believed to reflect past experiences as well as anticipated challenges and obstacles.

The TPB posits that these factors collectively influence an individual's intention to engage in a behaviour, which in turn predicts actual behaviour (Ajzen, 2002; Witz, 2014). The TPB provides insights into residents' attitudes toward specific water and sanitation behaviours, the influence of social norms, and their perceived control over adopting these practices. This can help tailor interventions that enhance positive attitudes, leverage social norms, and increase perceived behavioural control.

METHODOLOGY

This study explores the knowledge, perceptions, and attitudes of residents in Offa Local Government Area (LGA) towards Sustainable Development Goal 6. A survey methodology was employed for this research. The target population consisted of 166,112 residents of Offa, Kwara State. The sample size of 176 respondents was determined using the sample size calculation formula by Saunter et al. (2009). Participants were purposively selected based on their residency in Offa, Kwara State. The final sample was chosen using availability sampling, which involved visiting key locations in Offa where people from various parts and wards gather for commerce and other activities in order to access heterogeneous responses concerning clean water and sanitation. The strategic sites included Owode Market, Oja Ale Market, General Hospital Motor Park, Mini Campus Motor Park, and Main Campus Motor Park. A questionnaire was used as the primary data collection instrument; the reliability of the questionnaire was established through the Internal Consistency method. Essentially, the internal consistency of the questionnaire was assessed using Cronbach's alpha. A Cronbach's alpha value above 0.70 was considered acceptable for each section, and both descriptive and inferential statistics were applied to analyse the data in line with the study's objectives.

Data analysis

Table 1: Attitude Towards Sustainable Development Goal 6 (SDG 6) in Offa LGA

Item	SA Freq. (%)	A Freq. (%)	N Freq. (%)	D Freq. (%)	SD Freq. (%)	x̄	Sx
I regularly use clean water for drinking and cooking in my household.	97 (55.1)	63 (35.8)	8 (4.5)	4 (2.3)	4 (2.3)	4.28	.855
I always ensure that waste from my household is properly disposed of to avoid contaminating water sources.	115 (65.3)	41 (23.3)	15 (8.5)	4 (2.3)	1 (0.6)	4.75	.949
I believe it is important for individuals to practice sustainable water management.	123 (70)	31 (17.6)	2 (1.1)	19 (10.8)	1 (0.6)	4.76	.937
I support community initiatives aimed at improving water sanitation practices.	111 (63)	45 (25.6)	14 (8)	4 (2.3)	2 (1.1)	4.65	.695
I am willing to adopt sustainable practices, such as reducing water wastage.	117 (66.5)	39 (22.2)	16 (9.1)	4 (2.3)	0 (0)	4.70	.854
My household uses water-saving devices (e.g., low-flow faucets or toilets).	107 (60.8)	51 (29)	11 (6.3)	4 (2.3)	3 (1.7)	4.68	.755
I believe more education on sustainable water use is needed in Offa LGA.	97 (55.1)	63 (35.8)	8 (4.5)	4 (2.3)	4 (2.3)	4.28	.855
Average Mean/Sx						**4.58**	**0.84**

*Source: Field Survey, 2024; KEY: SA=Strongly Agree, A=Agree, N= Neutral, D=Disagree, SD=Strongly Disagree. ***Decision Rule: if mean is 1 to 1.49 =Strongly Disagree; 1.5 to 2.49 = Disagree; 2.5 to 3.49 =Neutral; 3.5 to 4.49= Agree; 4.5 to 5 = Strongly Agree*

Table 1 showed respondents' views on the indicators for measuring attitudes of Offa LGA residents towards sustainable water and sanitation practices. Overall, respondents generally strongly agreed on the indicators for measuring the attitudes of Offa LGA residents toward sustainable water and sanitation practices aimed at achieving SDG 6 ($\bar{x}$= 4.58), and the variation among their responses was not scattered/low (Sx= 0.84). Specifically, respondents agreed that: they regularly use clean water for drinking and cooking in my household ($\bar{x}$= 4.28), they always ensure that waste from my household is properly disposed of to avoid contaminating water sources ($\bar{x}$= 4.75), they believe it is important for individuals to practice sustainable water management ($\bar{x}$= 4.76), support community initiatives aimed at improving water and sanitation practices ($\bar{x}$= 4.65), they are willing to adopt sustainable practices, such as reducing water wastage ($\bar{x}$= 4.70), their household uses water-saving devices (e.g., low-flow faucets or toilets) ($\bar{x}$= 4.68), and they believe more education on sustainable water use is needed in Offa LGA ($\bar{x}$= 4.28). The foregoing analysis suggests that residents of Offa have a positive and progressive attitude toward sustainable water and sanitation practices in their environment.

H1: Attitude towards SDG 6 associates positively with the effectiveness of existing government policies and interventions on water and sanitation in Offa LGA.

Chi-Square was selected to test relationship and association, which was the major variable the hypothesis tested, i.e. the Likert scale questions were turned to categorical variables by re-arranging respondents' responses. The pre-set level of significance for this study is 0.05. The hypotheses presumed that there was no significant influence between the indicators. If the ρ -value, which indicates the significance or the probability value, exceeded the pre-set level of significance ($\rho > 0.05$), the hypothesis stated in the null form was accepted. However, if the ρ -value was less than or equal to 0.05 ($p \leq 0.05$), the null hypothesis was rejected and, therefore, the alternate, which presumed significant influence, was accepted

In order to test this research hypothesis, responses to questions seeking to know Offa residents' attitudes towards SDG 3 and the effectiveness of existing government policies and interventions on water and sanitation in Offa LGA were collected. The data collected from the study was analysed. In the analysed data, the majority of the respondents (167) agreed that they have a positive attitude towards the realisation of SDG 6 on water and sanitation in Offa LGA. However, a chi-square test of association is further carried out to examine the discrepancy between the observed and expected response rates.

Table 2: Chi-Square Analysis

Variable	Degree of Freedom	χ^2	p-value	Significant Status
Response	15	361.248	0.000	Significant

Table 2 presents a summary of the chi-square test, which examines whether Offa residents' attitudes towards SDG 3 are positively associated with the effectiveness of existing government policies and interventions regarding water and sanitation in Offa LGA. Since the p-value (0.000) is less than 0.05, the null hypothesis is rejected, thereby accepting the alternative. Consequently, Offa residents' attitudes towards SDG 6 are positively associated with the effectiveness of existing government policies and interventions regarding water and sanitation in Offa LGA. This finding establishes that Offa residents' attitudes towards achieving SDG 6 are positive.

DISCUSSION OF FINDINGS

The main objective of the study revealed that respondents regularly use clean water for drinking and cooking in their households. They always ensure that waste from their homes is properly disposed of to avoid contaminating water sources. Furthermore, they believe it is important for individuals to practise sustainable water management and support community initiatives aimed at improving water and sanitation practices. They are willing to adopt sustainable practices, such as reducing water wastage, and their households utilise water-saving devices (e.g., low-flow faucets or toilets). Additionally, they believe more education on sustainable water use is needed in Offa LGA. The findings are consistent with those of Garn et al. (2017) and Whittington et al. (2019)

when exploring attitudes towards health behaviours and SDG 6 in sub-Saharan Africa and India, respectively.

Based on the findings on the sole hypothesis, it was established that Offa residents' attitude towards SDG 3 is positively associated with the effectiveness of existing government policies and interventions concerning water and sanitation in Offa LGA. These findings are consistent with those of Adekunle (2021) and Olufemi et al. (2021).

Conclusion

This study has demonstrated that the residents of Offa, Kwara State, Nigeria, exhibit a positive attitude toward the achievement of SDG 6 and show strong support for community-driven initiatives aimed at enhancing water and sanitation practices in Offa LGA. The findings underscore the importance of community involvement in realising sustainable development goals, highlighting that local support can significantly contribute to the overall success of these initiatives, which hold the potential for lasting positive impacts on public health, quality of life, and economic development for its residents.

Recommendations

The study recommends that local authorities in Offa LGA continue to foster community engagement and participation in water and sanitation initiatives. This can be achieved through regular awareness campaigns, community meetings, and collaborative efforts with local organisations. Empowering residents to actively participate in decision-making processes and take ownership of water and sanitation projects will enhance the long-term sustainability of SDG 6 in the region.

Also, government and development partners should invest more in the development and maintenance of water and sanitation infrastructure in Offa LGA. This includes upgrading existing facilities, ensuring reliable access to clean water, and improving waste management systems. Adequate investment in these areas will contribute to better health outcomes and improved living conditions, aligning with the broader goal of achieving wellness and sustainability by 2030.

Finally, this study should be carried out in LGAs in other geopolitical zones in Nigeria, other than the North-central zone where Offa LGA is located. This could afford researchers the benefit of assessing the findings of the study with that of this study so as to generalize in the attainment of SDG 6 focus and target in Nigeria by 2030.

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