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Perception of Water Conservation Techniques in Urban and Rural Communities in Ogun State: A Comparative Analysis

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Abstract
Effective water management is vital for sustainable development amid rising populations, climate change, and growing resource demands. Urban and rural areas face unique water management challenges due to differences in infrastructure, population density, economic activities, and technology access. Urban water management emphasizes secure water supply through advanced systems and policy coordination, whereas rural management often tackles agricultural use and limited modern facilities. This study examines differences and overlaps in water management strategies, comparing perceptions of water conservation in Ijebu Ode (urban) and Ogbo (rural) communities. Grounded in Turner's Economic Evaluation of Water Resources framework, it employed a quantitative design using questionnaires administered to 220 systematically selected respondents (150 in Ijebu Ode, 70 in Ogbo). Data were analyzed through descriptive statistics and Chi-square tests. Respondents averaged 44.46±1.24 years; 59.5% were female. In Ijebu Ode, 54.7% had above secondary education versus 27.1% in Ogbo; 57.3% earned above ₦40,000 monthly compared to 15.7% in Ogbo. Predominant water management practices in Ogbo were traditional, while Ijebu Ode used semi-modern techniques. Rural residents mainly relied on streams and rivers; urban dwellers sourced water from taps, boreholes, and wells. However, results indicated no significant difference in conservation techniques and its economic implications between the communities. The study underscores the need for adaptive policies, community involvement, and innovative solutions to bridge urban-rural gaps. It recommends intensified government strategies and inclusive environmental education, particularly targeting rural areas, to enhance water conservation awareness and practices.

Keywords: Water conservation, Urban community, Rural community, Water resources

1. Introduction

Water is a fundamental resource for human survival, agricultural productivity, industrial processes, and ecological balance. It is a finite and irreplaceable resource essential for human survival, economic development, and ecological health. Yet, global freshwater supplies are under increasing pressure due to climate change, population growth, urbanization, and unsustainable consumption patterns (United Nations, 2021). As the demand for clean water rises, effective conservation strategies have become a critical component of water resource management. While large-scale infrastructure and policy initiatives play a key role, household-level water conservation represents an accessible and impactful means for individuals and families to contribute to sustainable water use. Household water conservation techniques refer to a variety of practices, behaviors, and technologies designed to reduce water consumption within the home. These include simple daily actions, such as turning off taps while brushing teeth and running full loads of laundry, as well as more structural interventions, like installing low-flow fixtures, water-efficient appliances, and rainwater harvesting systems (EPA, 2023). Indoor water-saving measures often target kitchens, bathrooms, and laundry areas, while outdoor techniques may involve xeriscaping, drip irrigation, or using recycled greywater for landscaping (Gleick *et al.*, 2019). These conservation efforts not only reduce water bills and lower household environmental footprints, but they also ease the burden on municipal water supplies and wastewater systems (Vickers, 2001). When adopted widely, household conservation measures can result in significant reductions in water demand at the community or city level. Moreover, raising public awareness and encouraging behavioral change are crucial for achieving long-term sustainability and resilience in the face of growing water scarcity (Russell and Fielding, 2010; Aderogba *et al.*, 2012).

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Nigeria is considered to be abundantly blessed with water resources. However, there is temporal and spatial variation in water availability, the north with low precipitation of only about 500mm in the northeastern corner, and the south with precipitation of over 4,000mm in the southeast. This high variability of rainfall in time and space is a significant characteristic of the tropical climatic belt, especially the Sahelian part of the country, in which the country is located and this needs to be factored into water resources management in the country. The Nigerian Sahelian belt is at the southern border of the Sahara desert and it is here that the country faces the challenges of high variability in precipitation which has been manifested in the form of persistent drought in the past three decades with its attendant impact on reduction in the extent of wetlands in the Hadejia Nguru area and the almost complete loss of the Lake Chad (Awuah, *et al.*, 2009). The country is drained mainly by the River Niger and its main tributary, the River Benue and their numerous minor tributaries as well as by the Lake Chad basin and the rivers that discharge into it. There are several other perennial rivers, such as Gongola, Hadejia-Jama'are, Kaduna, Cross River, Sokoto, Ogun, Osun, and Imo. Total surface runoff is large, while the annual runoff at the Lokoja gauging station on River Niger has been recorded as up to 165.80 billion cubic meters. Volume of available groundwater is also considerable in large sedimentary basins (the Sokoto and the Chad basins) which lie along the country's international boundaries. The right to water is a human right that is protected in a wide range of international instruments and the declaration on the rights of indigenous peoples. The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses. (WHO 2006).

There is a fundamental link between accessing water and living in dignity which means that the human right to water is receiving increased attention and recognition both in urban and rural area. Water is vital to life, essential to agriculture and a valuable energy source which may be utilised in the mitigation of climate change impacts. Water is extremely valuable globally to both indigenous and non-indigenous peoples and is used for many different purposes. Water is also important to both for different reasons. For example, non-indigenous Australians consider water as a spiritual, natural resource and a commodity that is not only essential to livelihood, but has significant economic contemporary value. The indigenous people regard the inland waters, rivers, wetlands, sea, islands, reefs, sandbars and sea grass beds as an inseparable part of their estates. As well as underpinning social and economic well-being, indigenous people's relationship with waters, lands and its resources is crucial to cultural vitality and resilience. Australia, and in particular the indigenous estate, includes some of the most bio diverse terrestrial and aquatic environments, including many intact and nationally important wetlands, riparian zones, forests, reefs, rivers and waterways. Australia also has some of the most diverse, unique and spectacular marine life in the world, (Awuah, *et al.*, 2009).

The implications of lack of clean water and access to adequate sanitation are widespread. Children die from dehydration and malnutrition, results of suffering from diarrheal illnesses that could be prevented by clean water and good hygiene (Metwally, *et al.*, 2006). The influx of water, in addition to the influx in human waste, has outpaced the development of waste water management systems, which has led to pollution of natural water bodies, unintentional use of waste water in irrigated agriculture, irregular water supply, and environmental concerns for aquatic life due to the high concentration of pollutants flowing into water bodies (Van, *et al.*, 2009). Overcrowding in urban slums makes it even more difficult to control sanitation issues and disease outbreaks associated with exposure to raw sewage. It has been reported that underprivileged urban populations pay exorbitant amounts of money for water, which is often not even suitable for consumption, while resources allocated to those living in the wealthy urban areas are heavily subsidized, meaning the wealthy pay less for cleaner water and better sanitation systems (Fotso and Ciera, 2007).

This paper explores the range of household water conservation techniques in use in both urban and rural communities. It examines their effectiveness and affordability, and identifies key enablers and barriers to adoption. Understanding these practices is essential for empowering individuals to make informed choices and for shaping policies that support sustainable domestic water use. The study analyses the variation in current situation and problems of water resources management in urban and rural communities. Water resource and its conservation techniques have affected human survival and development in both urban and rural communities. To solve water shortage, good storage technique is essential to prevent and control water contamination, develop new water resources and strengthen water resource management.

2. Study Area

Ijebu Ode is a prominent urban center in Ogun State, southwestern Nigeria. It serves as the administrative headquarters of the Ijebu Ode Local Government Area. Geographically, it lies roughly at latitude 6.82°N and longitude 3.92°E, positioned about 110 kilometers northeast of Lagos and approximately 60 kilometers south of Abeokuta, the Ogun State capital. Considering the spatial stretch, Ijebu-ode LGA extends approximately between Latitude 6.8500 and Longitude 3.8500 to Latitude 6.8500 and Longitude 3.9700 (Bakare and Bankole, 2015). It stretches again from Latitude 6.7400 and Longitude 3.9700 to Latitude and 6.7400 Longitude 3.8500. The Local Government has an area of 192km^2 and a population of 154, 032 at 2006 census. Ijebu Ode is located within the humid tropical rainforest zone, characterized by high annual rainfall (over 1,500 mm), distinct wet and dry seasons, and consistently warm temperatures averaging 26–28°C. The topography is generally low-lying to gently

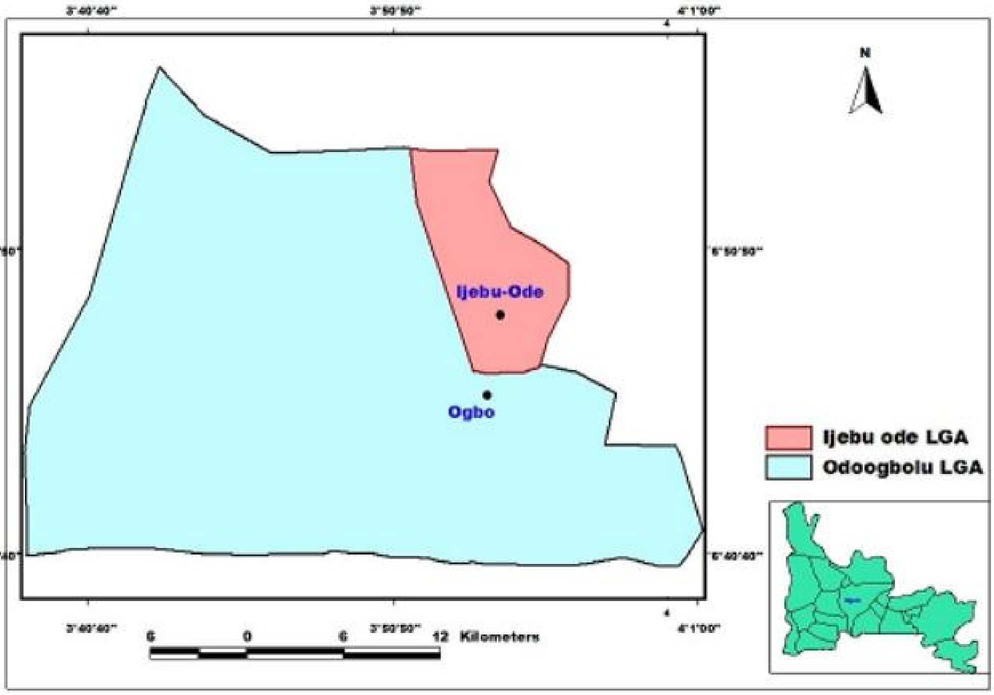

Figure 1: Location of Ijebu-ode and Ogbo Communities

undulating, with elevations ranging between 60 and 100 meters above sea level. Several seasonal streams and small rivers drain the area, contributing to its fertile soils and supporting both agriculture and domestic water needs. The city is a major node on the Lagos–Benin Expressway, giving it strategic economic importance. It is well-connected by road to nearby urban centers such as Shagamu, Odogbolu, and Epe. Land use is predominantly residential and commercial, with expanding peri-urban areas blending into farmland and secondary forests. Ijebu Ode is traditionally inhabited by the Ijebu sub-group of the Yoruba ethnic group and is known for its rich cultural heritage, especially the Ojude-Oba festival. The city exhibits an urban character with planned layouts, markets, educational institutions, healthcare facilities, and semi-modern water and sanitation infrastructure, distinguishing it from surrounding rural communities.

Ogbo community is a rural settlement located in Odogbolu Local Government Area of Ogun State, southwestern Nigeria. It lies within the tropical rainforest belt, characterized by warm temperatures and distinct wet and dry seasons. The community is situated approximately 10 to 15 kilometers northeast of Ijebu Ode, one of the major urban centers in Ogun State. Ogbo is primarily accessible via local roads that connect it to larger towns like Ijebu Ode and Odogbolu. The terrain is gently undulating with patches of secondary forest, farmlands, and scattered homesteads. The predominant land use in the area includes smallholder agriculture and local markets. Natural water bodies such as streams and small rivers traverse parts of the community, serving as important water sources for domestic and agricultural use. The community lies roughly between latitude 6.85°N and 6.90°N, and longitude 3.90°E and 3.95°E, although detailed GPS mapping would be needed for precise boundaries. The area's vegetation consists largely of secondary forest and derived savannah, reflecting a long history of farming and settlement. Ogbo's population is predominantly Yoruba, with traditional practices and communal lifestyles still strongly observed. The settlement pattern is dispersed, with houses often separated by farmlands or fallow plots. Basic infrastructure is modest, with limited access to piped water and modern sanitation, relying mostly on wells, streams, and rainwater harvesting.

3. Research Methodology

The study population comprised of residents of Ijebu Ode town and Ogbo communities. However, Ijebu Ode town is administratively located within Ijebu Ode Local Government Area while Ogbo community is located within Odogbolu Local Government Area, making the study area to fell within two adjoining Local Government Areas in Ijebu region of Ogun State. Ijebu Ode town represents urban community while Ogbo stands for rural community. Population data for the two communities was not scaled down to the grass-root level but estimated figure for Ijebu Ode LGA as at 2023 was 381,000 while that of Odogbolu LGA was estimated at 213,700 (NPC, 2024). A sample size of 220 was selected which comprised of 150 respondents from three selected area in Ijebu Ode (Lagos garage area, Ibadan road and Abeokuta road), while 70 samples were taken from Ogbo community. This sample represented 0.04% of the entire population in the two LGAs. The sampled population were carefully selected using a systematic random technique. Each selected area was broken down into streets from which a random table was used to determine the household survey. The survey of Ijebu Ode was limited to the area that could be referred to as cosmopolitan area, and qualified to be called urban area. The survey of Ogbo community was done based on the arrangement and configuration of households and buildings within the area. The instrument used in gathering data for this study was a structured questionnaire. The questionnaire was divided into two major sections; section A contained the respondents' socioeconomic and sociodemographic characteristics, while section B contained questions that focused on the perception of water conservation techniques in urban and rural communities in the two communities. The questionnaire was structured as both open-ended and pre-coded questions such that respondents were able to express their views on the subject matter. Copies of the questionnaire were administered on respondents using a systematic random sampling technique within the two selected communities. Field survey was conducted in the daytime mostly in the morning and late afternoon when the respondents were available. The selected streets within the areas were gridded from where the buildings were selected at in interval of 4 in Ijebu Ode and 3 at Ogbo community. One household was selected from each building to ensure a wide coverage of the respondents. Most of the respondents were helped out to complete the questionnaire, especially at Ogbo where majority of the respondents were illiterate being a rural community. The data was therefore analysed to get the frequency distribution using percentages and cross-tabulations.

Table 1 presents three key sociodemographic characteristics of the respondents: age distribution, educational attainment, and occupation. Table 4.1.2 details the age distribution. It shows that among urban respondents, 6.7% were under 20 years, 28% were aged 21–30, 22.7% were 31–40, 24.7% were 41–50, 10.7% were 51–60, and 7.3% were 61 years and above, indicating that most urban respondents fell within the 21–30 age bracket. For rural respondents, 17.1% were below 20, 18.6% were 21–30, 20% were 31–40, 17.1% were 41–50, 24.3% were 51–60, and 2.3% were 61 and above, showing a concentration in the 51–60 age range. This suggests younger respondents were more prevalent in urban areas than in rural communities. The table also outlines educational levels: in urban areas, 2.7% had primary education, 36.7% had secondary education, 54.7% held post-secondary qualifications up to Ph.D., and 2.7% had professional certifications, indicating a generally higher educational attainment than in rural areas. Conversely, 30.3% of rural respondents had primary education, and 42.9% had secondary education, clearly reflecting lower educational levels. Occupational data reveals that most urban respondents were civil servants or traders, whereas farming dominated among rural respondents. This likely affects both their water demand patterns and their knowledge and perceptions of water conservation. Additionally, income distribution in Table 2 shows that urban respondents generally earned more than their rural counterparts, which could further influence not only their water demand but also their ability to secure domestic water supplies.

4. Results and Discussion

Table 1: Socioeconomic characteristics of the respondents

Age	Urban (Ijebu Ode)		Rural(Ogbo)	
	Frequency	Percent	Frequency	Percent
below 20	10	6.7	2	2.9
21 – 30	42	28.0	17	24.3
31 – 40	34	22.7	13	18.6
41 – 50	37	24.7	14	20.0
51 – 60	16	10.7	12	17.1
61 years and above	11	7.3	12	17.1
Total	150	100.0	70	100.0
Education	Urban(Ijebu Ode)		Rural (Ogbo)	
	Frequency	Percent	Frequency	Percent
Primary	4	2.7	21	30.0
Secondary	55	36.7	30	42.9
Tertiary	82	54.7	13	18.6
Professional	4	2.7	5	7.1
Islamic	5	3.3	1	1.4
Total	150	100.0	70	100.0
Occupation	Urban(Ijebu Ode)		Rural (Ogbo)	
	Frequency	Percent	Frequency	Percent
Trader/business	38	25.3	7	10.0
Civil servant	61	40.7	10	14.3
Farmers	33	22.0	49	70.0
Students	18	12.0	4	5.7
Total	150	100.0	70	100.0

Source: Fieldwork, 2025

Table 2 Education and sources of water

		Source of Water					Total
		Rain	Well	Tap	Borehole	Stream/ river	
Educational Status	Primary	0	0	25.0%	75.0%	0	100.0%
	Secondary	0	14.5%	41.8%	40.0%	3.6%	100.0%
	Tertiary	0	13.4%	39.0%	46.3%	1.2%	100.0%
	Professional	0	100.0%	0	0	0	100.0%
	Islamic	100.0%	0	0	0	0	100.0%

Monthly income of the respondents

Income	Urban (Ijebu Ode)		Rural (Ogbo)	
	Frequency	Percent	Frequency	Percent
less than ₦ 20,000	7	4.7	17	24.3
₦21,000 - ₦40,000	57	38.0	42	60.0
₦41,000 - ₦60,000	46	30.7	5	7.1
₦61,000 - ₦80,000	26	17.3	3	4.3
₦81,000 - ₦100,000	11	7.3	2	2.9
₦100,000 and above	3	2.0	1	1.4
Total	150	100.0	70	100.0

Source: Fieldwork, 2025

Education and income significantly shape how individuals perceive various issues, including the quality of their water. Research consistently demonstrates that people with higher educational attainment tend to be more knowledgeable about environmental concerns, such as water pollution, its origins, and related health risks (Doria, 2010; Jones *et al.*, 2005). Education enhances the capacity to understand complex information about water quality, increases expectations for safer water provision, and encourages proactive behaviors to protect household water. Those with formal education are generally better equipped to interpret technical indicators like turbidity, chemical contaminants, and microbiological hazards. In contrast, individuals with limited education often rely on sensory perceptions, such as taste, odour, and appearance, to judge water quality (Onabolu *et al.*, 2011). This reliance can be problematic, as many dangerous pollutants, including pathogens or arsenic, are not detectable by sight, smell, or taste, leading less-educated populations to underestimate serious health threats (de França Doria, 2010). In rural areas and low-income urban settings, where formal dissemination of water quality information is scarce, education becomes even more pivotal. Evidence suggests that targeted educational initiatives, like community sensitization programs or school-based water safety campaigns, substantially boost awareness and perceptions of water-related risks (Owuamanam *et al.*, 2012). Such interventions often translate into practical changes, including greater use of boiled or treated water. However, it is important to note that higher education does not always equate to unquestioning trust in public water supplies. In fact, more educated individuals may exhibit greater skepticism toward government-managed systems, opting instead for private filtration or alternative water sources (Doria, 2006). This underscores the complex interplay between knowledge, trust, and behavior in water quality management.

5. Perception of water conservation techniques

Access to safe and sufficient water is a critical pillar of public health and overall human well-being. Across different regions, people rely on diverse water sources, including piped systems, boreholes, wells, rivers, rainwater harvesting, and tanker deliveries, each presenting unique implications for both actual water quality and how users perceive its safety. To provide a global framework, the World Health Organization (WHO) and UNICEF classify water sources as either improved or unimproved. Improved sources, such as piped water, public taps, boreholes, and protected wells, are generally considered more reliable and safer for consumption (WHO and UNICEF, 2021). However, even these improved sources are not immune to contamination; issues like aging infrastructure, inconsistent supply, and poor maintenance can compromise their quality, highlighting the importance of ongoing preservation efforts (Howard and Bartram, 2003). On the other hand, unimproved sources, including unprotected wells, surface water bodies, and tanker deliveries, pose significantly higher contamination risks and are often the primary options in regions with inadequate infrastructure or informal settlements (Doria, 2010). Table 2 illustrates the various water sources used by respondents in the study communities. It reveals that a substantial majority of urban respondents (94.6%) depended on wells, taps, and boreholes, while 57.2% still relied on natural sources like streams, rivers, and rainwater, supplemented in some cases by donor-funded boreholes. Interestingly, data show that approximately 98.5% of rural respondents consumed an average of 375 litres of water weekly, whereas only about 39.3% of urban respondents reached this volume, suggesting higher reported consumption in rural areas. However, this likely overlooks the significant amount of water used for agriculture in rural settings, which respondents may not have fully accounted for. Additionally, the table indicates that urban residents spent more financially to secure water compared to their rural counterparts, despite both groups allocating a portion of their income to household water needs. This underscores differences not only in water source dependence but also in the economic burden of accessing water across these communities.

Table 4 presents respondents' perceptions of the water available to them and its quality. Combining responses from both the urban and rural communities, the data indicate that the majority viewed their water sources as being of good quality. According to the table, 60.0% of respondents considered rainwater to be of good quality, 57.1% regarded tap water favourably, and as many as 88.9% perceived borehole water to be of good quality. Meanwhile, 43.5% felt that water sourced from wells was safe for consumption, whilst 56.5% reported that they merely managed with it as it was their only available option. Notably, a significant proportion (68.0%) acknowledged that water from streams and rivers within their localities was unsuitable for drinking. Both indoor and outdoor water storage methods, along with the facilities employed, were also examined to identify the predominant conservation techniques in each community. As shown in Table 3, 30.7% of respondents in Ijebu Ode utilised tanks for water storage, compared to just 5.7% in the rural community. Conversely, a higher proportion (47.1%) in the rural area relied on buckets, whereas only 28.0% did so in the urban community. Similarly, the use of kettles (22.9%) and jars (24.3%) was more prevalent in Ogbo than in Ijebu Ode. Interestingly, basins (14.0%) and kegs (16.7%) were exclusively used by respondents in the urban community, with no usage reported in the rural area. This highlights the clear disparity in indoor water preservation techniques between Ijebu Ode and Ogbo. Regarding outdoor storage, residents in Ogbo predominantly used kegs (20.0%) and plastic bowls (24.3%), whereas a substantial percentage in Ijebu Ode employed overhead tanks (67.3%) and underground tanks (26.7%). Remarkably, 41.4% of respondents in Ogbo still utilised clay pots for outdoor storage, reflecting a traditional rural approach to water conservation. This contrast underscores the differences in water preservation practices between the urban and rural communities studied.

Table 3 Sources of water consumed by the respondents

Water source	Urban (Ijebu Ode)		Rural (Ogbo)	
	Frequency	Percent	Frequency	Percent
Rain	5	3.3	13	18.6
Well	23	15.3	3	4.3
Tap	56	37.3	2	2.9
Borehole	63	42.0	25	35.7
Stream/river	3	2.0	27	38.6
Total	150	100.0	70	100.0

Volume of water consumed in a week

Average Volume (25L)	Urban (Ijebu Ode)		Rural (Ogbo)	
	Frequency	Percent	Frequency	Percent
1 – 5	9	6.0	15	21.4
6 – 10	24	16.0	14	20.0
11 – 15	26	17.3	40	57.1
16 – 20	91	60.7	1	1.4
Total	150	100.0	70	100.0

Average amount spent on water per week

Amount (₦)	Urban (Ijebu Ode)		Rural (Ogbo)	
	Frequency	Percent	Frequency	Percent
Less than ₦100	5	3.3	9	12.9
₦101 - ₦200	11	7.3	11	15.7
₦201 - ₦300	65	43.3	50	71.4
₦301 - ₦400	69	46.0	0	0
Total	150	100.0	70	100.0

Perceived quality of water

Perceived Water Quality	Urban (Ijebu Ode)		Rural (Ogbo)	
	Frequency	Percent	Frequency	Percent
Very good			10	14.3
Good	102	68.0	23	32.9
Bad	9	6.0	13	18.6
Manageable	39	26.0	24	34.3
Total	150	100	70	100

Source: Fieldwork, 2025

Table 4 Sources of water and its quality

Cross-tabulation

		Water Quality			Total
		Good	Bad	Manageable	
Source of Water	Rain	60.0%		40.0%	100.0%
	Well	43.5%		56.5%	100.0%
	Tap	57.1%	12.5%	30.4%	100.0%
	Borehole	88.9%		11.1%	100.0%
	stream/river	33.3%	66.7%		100.0%

Indoor water storage facilities

	Urban (Ijebu Ode)		Rural (Ogbo)	
Facilities	Frequency	Percent	Frequency	Percent
Jar	16	10.7	17	24.3
Tank	46	30.7	4	5.7
Bucket	42	28.0	33	47.1
Kettle	0	0	16	22.9
Basin	21	14.0	0	0
Kegs	25	16.7	0	0
Total	150	100.0	70	100

Outdoor water storage facilities

Outdoor Storage Facilities	Urban (Ijebu Ode)		Rural (Ogbo)	
	Frequency	Percent	Frequency	Percent
Kegs	0	0	14	20.0
Plastic bowl	3	2.0	17	24.3
Overhead tank	101	67.3	0	0
Galvanize tank	5	3.3	0	0
Water Storex	0	0	9	12.9
Underground tank	40	26.7	0	0
Clay pot	1	.7	29	41.4
Kettle	0	0	1	1.4
Total	150	100.0	70	100.0

Source: Fieldwork, 2025

However, outdoor water use in urban areas is largely directed towards landscaping and similar activities. Practices such as xeriscaping, which involves the use of drought-tolerant native plants, and drip irrigation systems are employed to minimise evaporation and runoff (St. Hilaire *et al.*, 2008). These approaches, however, are largely unfamiliar and not commonly practised in rural communities within this region. Likewise, rainwater harvesting systems installed on rooftops, along with green infrastructure solutions like green roofs, bioswales, and permeable pavements, are increasingly adopted in urban settings to manage stormwater and reduce the demand for potable water in irrigation (EPA, 2012). In contrast, outdoor water use in rural areas is predominantly tied to agriculture, making irrigation a crucial focus for conservation efforts. Traditional methods such as rainwater harvesting, the construction of small-scale reservoirs, and contour bunding are widely used to help retain water across rural landscapes (FAO, 2017). Moreover, indigenous practices, including zai pits found in West Africa and qanats in the Middle East, illustrate local innovations designed to conserve water while sustaining agricultural productivity (Reij *et al.*, 2009). However, while urban areas benefit from advanced technological infrastructure to support water conservation, rural areas continue to depend heavily on traditional, often community-driven methods tailored to their local environments and needs.

However, Table 6 highlights various solutions proposed by respondents to address water supply challenges and improve preservation methods in both the urban and rural communities represented by the two study areas. According to the data, 12.0% of respondents in the urban community and 28.6% in the rural community suggested that community development associations (CDAs) should take responsibility for providing boreholes. Likewise, 17.3% of urban respondents and a notably higher 35.7% of rural respondents recommended that water vendors reduce their charges, thereby easing the financial burden on households. Interestingly, approximately 17.3% of urban respondents and 24.3% of their rural counterparts expressed concerns over the geological implications of excessive borehole drilling and were of the view that such practices should be discouraged. Additional solutions put forward included the rehabilitation and restoration of the public water supply system, supported by 32% of respondents in the urban area and 16.4% in

Table 5: Frequency of outdoor water facility cleaning

Washing Frequency	Urban (Ijebu Ode)		Rural (Ogbo)	
	Frequency	Percent	Frequency	Percent
Monthly	116	77.3	5	7.1
3 month	21	14.0	15	21.4
6 month	10	6.7	50	71.4
12 month	3	2.0	0	0
Total	150	100.0	70	100.0
Mode of water treatment				
Mode	Urban (Ijebu Ode)		Rural (Ogbo)	
	Frequency	Percent	Frequency	Percent
Boiling	121	80.7	2	2.9
Filtration	8	5.3	5	7.1
Chlorination	6	4.0	3	4.3
None	15	10.0	60	85.7
Total	150	100.0	70	100.0
Perceived health implication of bad water quality				
	Urban (Ijebu Ode)		Rural (Ogbo)	
Implications	Frequency	Percent	Frequency	Percent
Diseases build up in human body	55	36.7	23	32.9
Endangers body systems	60	40.0	23	32.9
Kills hormone and causes respiratory problem	35	23.3	24	34.3
Total	150	100.0	70	100.0

Source: Fieldwork, 2025

Table 6: Suggested Solutions to Water Supply Problems Source: Fieldwork, 2025

Solutions	Urban (Ijebu Ode)		Rural (Ogbo)	
	Frequency	Percent	Frequency	Percent
Provision of boreholes by community development association	18	12.0	20	28.6
Reduction in water charges	26	17.3	25	35.7
Borehole drilling should be discouraged because of the geology	26	17.3	17	24.3
Water corporation should be restored	48	32.0	8	11.4
Washing of reservoirs to avoid cholera	20	13.3	0	0
Proper maintenance of water facilities	12	8.0	0	0
Total	150	100.0	70	100.0

Source: Fieldwork, 2025

the rural community. Among the remaining urban the remaining urban respondents, 13.3% advocated for improved water sanitation practices at the household level, while 8.0% emphasised the importance of properly maintaining water storage facilities. These findings reflect a range of community-driven perspectives on tackling water supply issues, encompassing both infrastructural interventions and behavioural changes aimed at enhancing water quality and availability.

6. Conclusion

Effective water management in both rural and urban areas is essential for ensuring water security, sustainability, and resilience in the face of growing environmental and demographic pressures. While urban areas benefit from technological advancements, such as smart meters, greywater systems, and green infrastructure, rural regions often rely on traditional knowledge, small-scale harvesting, and agricultural efficiency practices to manage water resources. Despite these contextual differences, both settings face challenges related to resource availability, infrastructure, and public awareness. Integrating modern innovations with local knowledge, promoting education, and strengthening policy frameworks are critical for improving water conservation across diverse settings. Coordinated efforts that bridge urban and rural practices can foster more inclusive, adaptive, and sustainable water management systems for the future. Urban and rural residents must be actively engaged in all levels of decision-making that directly and indirectly impact their livelihoods and communities in general. Effective participation in decision making about water resources is essential to ensuring non-discriminatory treatment and equality of life.

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