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Role of Clean Water Resources on Environmental Sanitation in the Revival of the Distressed Economy of Nigeria

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Abstract: *This study, examines the role of clean water resources in enhancing environmental sanitation and contributing to the revival of Nigeria's distressed economy. Specifically, the research Examines the effect of Water Infrastructure Development on Environmental Sanitation in the Revival of the Distressed Economy of Nigeria; and Evaluates the effect of community Water Management Systems on Environmental Sanitation in the Revival of the Distressed Economy of Nigeria. A descriptive cross-sectional research design was adopted, and data were analyzed using simple linear regression in SPSS version 28.0. The results demonstrate that water infrastructure development exerts a significant positive effect on environmental sanitation and economic recovery ($p = 0.001 < 0.05$). Similarly, community water management systems significantly influence environmental sanitation in the context of economic revival ($p = 0.019 < 0.05$). The findings underscore the central role of clean water resources as a catalyst for both public health improvement and economic resilience. It is concluded that sustainable access to clean water is indispensable for environmental sanitation and national development. The study recommends that policymakers prioritize the establishment, rehabilitation, and maintenance of comprehensive water supply systems, alongside strengthening community participation in water governance, to ensure long-term environmental and economic sustainability.*
Keywords*:* clean water, environmental sanitation, distressed economy

INTRODUCTION

Clean water resources are essential for human survival, environmental sanitation, and socio-economic development. Globally, access to safe and adequate water supply underpins improved health, environmental protection, and economic productivity (UNICEF, 2020; WHO, 2019).

Water plays multiple roles—domestic, agricultural, industrial, and ecological—making it a foundation for sustainable development. In Nigeria, however, the inadequacy of clean water supply has persisted, worsening environmental sanitation challenges and hampering efforts to revive a distressed economy (Okoye & Eze, 2021).

Scholars emphasize that clean water contributes directly to reducing the prevalence of waterborne diseases such as cholera and typhoid (Adeyemo, 2019). It also facilitates agricultural productivity, industrial processes, and community well-being. Beyond health benefits, water functions as an economic resource; poor sanitation and unsafe water cost developing nations billions of dollars annually in healthcare and productivity losses (World Bank, 2017). Thus, effective water governance and sustainable sanitation practices are vital to socio-economic stability and growth.
Nigeria's situation illustrates a paradox: despite abundant surface and groundwater, access to safe water remains low, especially in rural areas. Urban centers are not spared, as infrastructural decay, poor waste management, and pollution undermine water systems (Nwankwo & Okorie, 2019). This condition contributes to widespread sanitation crises, environmental degradation, and reduced economic resilience. Addressing these challenges requires an integrated approach linking clean water resources, environmental sanitation, and national economic revival (Akpabio & Ansa, 2020).

Statement of the Problem

Water scarcity and poor sanitation are among the most pressing developmental challenges in Nigeria. Millions of citizens rely on contaminated water sources, leading to frequent outbreaks of cholera, diarrhea, and typhoid. These health challenges reduce labor productivity and impose heavy financial burdens on households and government (Akinyele et al., 2018). Despite the recognition of water as a human right (UNGA, 2010), Nigeria struggles with weak governance, infrastructural deficits, and inadequate policy implementation in the water sector (Adeniran & Ilesanmi, 2020).

Urban areas face frequent water shortages due to old pipelines, unregulated borehole drilling, and industrial pollution, while rural dwellers trek long distances to fetch unsafe water. Poor waste disposal practices further pollute streams and groundwater, aggravating the sanitation crisis (Okoye & Eze, 2021). The economic consequences are evident: recurrent disease outbreaks reduce workforce efficiency, while agricultural and industrial productivity is undermined by unreliable water supply. These issues perpetuate poverty and hinder Nigeria's path toward sustainable development. The challenge is not merely the absence of water resources but the mismanagement, inequitable distribution, and lack of integration between water supply, sanitation, and economic revival policies. Unless addressed, Nigeria risks prolonged economic stagnation and worsening public health outcomes.

Objective of the Study

The study aims to examine the role of clean water resources in environmental sanitation and their contribution to reviving Nigeria's distressed economy. To achieve this, the specific objectives include to:

i. examine the effect of Water Infrastructure Development on Environmental Sanitation in the Revival of the Distressed Economy of Nigeria; and
ii. evaluate the effect of community Water Management Systems on Environmental Sanitation in the Revival of the Distressed Economy of Nigeria.

Hypotheses of the Study

To guide the investigation, the following hypotheses were formulated empirically tested to provide evidence-based insights on the role of clean water resources in sanitation and economic transformation:

- **H_{01}:** There is no significant effect of Water Infrastructure Development on Environmental Sanitation in the Revival of the Distressed Economy of Nigeria.
- **H_{02}:** There is no significant effect of Community Water Management Systems on Environmental Sanitation in the Revival of the Distressed Economy of Nigeria.

REVIEW OF RELATED LITERATURE

Conceptual Review

Clean water resources are central to environmental sanitation and to the economic and social well-being of nations. Access to safe water reduces disease prevalence, enhances hygiene practices, and creates a foundation for healthy and productive societies. Water constitutes a vital natural resource for human survival, serving as a critical input in agriculture, industry, domestic use, and ecosystem maintenance. As scholars note, clean water plays a dual role: first, in ensuring public health through sanitation and, second, in sustaining environmental and economic stability (UNICEF, 2020; WHO, 2019). Environmental sanitation refers to principles and practices designed to protect human health through the provision of safe water, effective waste disposal, and improved hygienic conditions. The integration of clean water into sanitation initiatives reduces waterborne diseases such as cholera, dysentery, and typhoid (Okoye & Eze, 2021). Furthermore, when water is accessible and of good quality, communities experience improved agricultural productivity and industrial output, which are critical to economic revival (FAO, 2018).

Conceptually, water resources are categorized as surface water (rivers, lakes, reservoirs) and groundwater (aquifers and wells). Both categories are subject to contamination risks from urbanization, industrial effluents, and agricultural runoff (Adeyemo, 2019). Hence, environmental sanitation must address water quality and water management simultaneously. The revival of distressed economies such as Nigeria's hinges on optimal resource management, with water resources serving as a cornerstone. Studies reveal that poor sanitation and unsafe water cost developing countries billions in healthcare expenditures and lost productivity (World Bank, 2017). Conversely, investing in clean water systems stimulates economic activities, improves workforce efficiency, and reduces poverty (Akpabio & Ansa, 2020).

Water as a human right has been recognized globally, with the United Nations affirming it as indispensable for the realization of other rights (UNGA, 2010). Nigeria's challenge lies in

translating this recognition into policy and practice, especially in urban centers where infrastructural decay undermines water distribution networks. In rural communities, reliance on contaminated streams exacerbates the sanitation crisis. Addressing these challenges requires an integrated approach linking water governance, environmental sanitation, and economic policies (Nwankwo & Okorie, 2019). Thus, the conceptual framework emphasizes water as both a biological necessity and an economic catalyst. When integrated into sanitation systems, clean water resources serve as the backbone of environmental health and economic revival.

Theoretical Framework

Several theoretical perspectives illuminate the interconnections between clean water resources, sanitation, and economic development.

The Sustainable Livelihoods Framework (SLF) emphasizes that access to natural capital, including water, is crucial for sustaining livelihoods (Chambers & Conway, 1992). In Nigeria, livelihoods dependent on agriculture, fishing, and small-scale industry rely on clean water. SLF posits that without sustainable water resources, households become vulnerable to shocks such as disease outbreaks and crop failures.

The Environmental Determinism Theory suggests that the physical environment, including water availability, directly influences social and economic development. In the Nigerian context, regions with reliable water infrastructure exhibit stronger economic resilience compared to water-stressed zones (Onuoha, 2020).

Systems Theory views water and sanitation as interconnected components within a broader socio-ecological system. For instance, urban water supply interacts with waste management, public health, and industrial growth. Disruption in one component, such as contaminated water, destabilizes the entire system, reinforcing the need for integrated policies (Eze & Obi, 2019).

The Health Belief Model (HBM) contributes a behavioral perspective by suggesting that individuals adopt sanitation practices, such as handwashing or safe water storage, when they perceive susceptibility to disease and recognize the benefits of preventive measures (Rosenstock, 1974). Application of HBM in Nigerian communities underscores the importance of awareness campaigns to enhance adoption of sanitation practices.

The Political Ecology Framework highlights how power relations and governance affect access to water resources. In Nigeria, political neglect, corruption, and weak institutional capacity hinder equitable water distribution, particularly in marginalized rural communities (Adeniran & Ilesanmi, 2020). Political ecology emphasizes that sustainable solutions must confront governance structures and socio-economic inequalities.

Ecological Modernization Theory suggests that environmental challenges like water scarcity and pollution can be addressed through technological innovation and institutional reform. For Nigeria,

this may involve smart water systems, renewable-powered boreholes, and reforms in water governance that encourage private-public partnerships (Mol & Spaargaren, 2000).
These theories collectively demonstrate that access to clean water is not simply a technical issue but a multidimensional challenge encompassing environmental, social, political, and behavioral dimensions. They provide a framework for understanding how clean water resources enhance sanitation and economic resilience.

Empirical Reviews
Empirical evidence strongly supports the link between clean water, sanitation, and economic revival.

Several Nigerian studies document that inadequate access to clean water directly correlates with the prevalence of waterborne diseases. For example, Akinyele et al. (2018) found that communities dependent on contaminated streams in Southwest Nigeria recorded high incidences of cholera and diarrhea, leading to reduced productivity and increased healthcare costs. Similarly, Okoye and Eze (2021) reported that improving rural borehole systems significantly decreased typhoid prevalence in Enugu State.
Globally, case studies from countries such as India and Bangladesh reveal that investments in water and sanitation yield substantial economic returns. Hutton et al. (2015) estimated that every dollar invested in water and sanitation generates about four dollars in economic benefit due to improved health and productivity. For Nigeria, similar findings are observed: regions with better water infrastructure such as Lagos State experience higher economic activities compared to water-insecure regions (Ademola, 2019).

Agricultural productivity also depends heavily on clean water. FAO (2018) highlights that irrigation systems in Northern Nigeria boost food output, while poor water management in the Southeast exacerbates erosion and reduces arable land. Empirical research shows that communities with reliable irrigation witness food security improvements, thereby stabilizing local economies (Okafor & Ogbu, 2020).

Another critical area of empirical evidence relates to environmental sanitation. Poor waste management contaminates water sources, compounding the sanitation crisis. A study by Nwankwo and Okorie (2019) observed that inadequate drainage systems in Anambra State result in frequent flooding, which pollutes water supplies and spreads disease. Conversely, integrated water and sanitation projects reduce environmental hazards and promote healthier living conditions.Urban-rural disparities further highlight inequities in water access. UNICEF (2020) reported that while urban centers in Nigeria have relatively better access to improved water sources, rural areas lag significantly, with women and children often tasked with fetching water from distant, unsafe sources. This not only impacts health but also reduces time available for education and income-generating activities.

International comparisons provide valuable lessons. Rwanda's community-based water management approach demonstrates how grassroots participation enhances sustainability of water projects (Mutabazi et al., 2017). Similarly, South Africa's constitutional recognition of water as a right has driven reforms that improve water access in disadvantaged communities (Muller, 2016). For Nigeria, adopting such models could bridge gaps in governance and community ownership.
Empirical studies also emphasize the role of technology in water and sanitation. Remote sensing and GIS applications have been used to map water resources and monitor contamination risks (Adeyemo, 2019). Mobile-based water quality reporting systems empower communities to detect and address water issues promptly. These innovations highlight opportunities for Nigeria to modernize its water governance.

Furthermore, empirical evidence underscores the economic cost of inaction. The World Bank (2017) estimates that Nigeria loses about 1.3% of its GDP annually due to poor water and sanitation services. This loss arises from healthcare expenses, reduced labor productivity, and premature deaths. Conversely, strategic investment in water infrastructure could boost GDP growth by creating jobs, enhancing agricultural productivity, and improving public health outcomes (Akpabio & Ansa, 2020).

Finally, case studies from erosion-prone regions of Southeast Nigeria illustrate the dual role of trees, vegetation, and water management in combating environmental degradation. Vegetation buffers not only protect water quality but also stabilize soils, preventing further land loss (Onuoha, 2020). Integrating water resource management with environmental sanitation thus emerges as a holistic strategy for sustainable development.

Synthesis of Literature
The literature review demonstrates that clean water resources play an indispensable role in environmental sanitation and the revival of distressed economies such as Nigeria's. Conceptually, water is both a biological necessity and an economic catalyst. Theoretical perspectives including the Sustainable Livelihoods Framework, Systems Theory, Political Ecology, and Ecological Modernization reveal the multifaceted nature of water management challenges. Empirically, evidence confirms that investing in clean water and sanitation reduces disease burden, boosts productivity, enhances food security, and contributes to economic growth.
In Nigeria, the challenge remains aligning policy, governance, and community practices to harness these benefits. Without addressing governance failures and infrastructural gaps, water scarcity and contamination will continue undermining sanitation and economic stability. Conversely, integrating clean water resources into environmental sanitation strategies provides a pathway toward public health improvement and economic revival.

METHODOLOGY

A descriptive cross-sectional research design was used for this investigation. The responders were selected at random from among the numerous individuals residing in the urban and rural areas

respectively. Simple random sampling was used to choose these organizations for the investigation. The survey findings were evaluated using SPSS 28.0's simple linear regression analysis. The aim of the study was to examine the Role of Clean Water Resources on Environmental Sanitation in the Revival of the Distressed Economy of Nigeria.

Based on the link between predictors and dependent variables, simple linear regression analysis is the model specification employed in this study endeavor.

$$Y = \beta_0 + \beta_1 x_1 + \mu \ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

$$Y = f(X)$$

Where Y=Dependent variable represented by environmental sanitation

x_i= Predictors variable (water infrastructure development, community water management system)

β_0= Slope or intercept

β_1= Regression coefficients

μ= Error term

Data Analysis, Presentation and Discussion

The data collected from respondents in the various firms under study are presented, analyzed, and interpreted in this part. To meet our goal for this study, the replies were categorized by categorizing them using a Likert scale approach. A study of the structured questionnaire was conducted utilizing a social science statistical software (SPSS version 27.0).

Rate of Response

The rate of response is as contained in table 4.1.

Table 4.1: Response Rate

	Frequency	Percentage	Cumulative Percent
Returned	152	87.86	87.86
Unreturned	21	12.14	100
Total	173	100	

Source: Field Work 2025

One hundred seventy-three (173 copies) of the questionnaires were distributed, but only one hundred and fifty-two (152) of them were returned, and the remaining copies were not. There were 21 unreturned items (21). The following are some of the causes for the unreturned.

- A few respondents lost the questionnaire given to them.
- A few respondents reluctantly did not respond to the questionnaire and lastly few others ticked two answers for a question, and this was recorded as a void to avoid incorrected interpretations.

Water Infrastructure Development

The instrument sort to find out about water infrastructure development and the responses from the respondents is as contained in table 4.2.

Table 4.2: Water Infrastructure Development Responses

Statement	Strongly Agree	Agree	Neutral	Strongly Disagree
Water sources and distribution systems are well protected against contamination.	47(30.9%)	69(45.4%)	24(15.8%)	12(7.2%)
The community has access to adequate water supply infrastructure.	55(36.2%)	63(41.4%)	14(14.5%)	10(6.6%)
The water infrastructure in this area is regularly maintained.	53(34.9%)	64(42.1%)	23(15.1%)	12(7.8%)
The existing water facilities meet the needs of the population.	41(26.9%)	66(43.4%)	31(20.4%)	14(9.2%)

Source: Field work 2025

The data reveals a generally positive perception of water infrastructure development within the community. A significant proportion of respondents either agreed or strongly agreed that water sources and distribution systems are well protected against contamination. Specifically, 76.3% of participants expressed agreement (30.9% strongly agreed and 45.4% agreed), indicating a level of confidence in the protective measures surrounding water infrastructure. However, the presence of a small yet notable proportion (23%) who disagreed or strongly disagreed suggests that improvements may still be necessary in certain areas or locations. Similarly, access to adequate water supply infrastructure was rated positively by the majority of respondents. About 77.6% (36.2% strongly agreed and 41.4% agreed) affirmed that the community has adequate access to water infrastructure. Nonetheless, the responses of those who disagreed (a combined 22.4%) should not be overlooked, as they may reflect underserved zones or inequalities in water distribution that require targeted policy attention. On the subject of maintenance, 77% of respondents acknowledged that water infrastructure is regularly maintained. Despite this, the 23% who responded negatively point to a segment of the population that may be experiencing lapses in maintenance practices possibly due to geographic, administrative, or technical disparities that hinder uniform service delivery. Lastly, the adequacy of existing water facilities in meeting population needs received relatively less favorable responses. While a combined 70.3% of respondents agreed that water facilities meet demand, this item also had the highest rate of disagreement (29.6%).

Community Water Management

This instrument seeks to find out from the respondents about the community water management as summarized in table 4.3.

Table 4.3: Community Water Management Responses

Statement	Strongly Agree	Agree	Neutral	Strongly Disagree
The community has a clear structure for managing local water resources.	73(48%)	62(40.8)	11(7.2%)	6(3.9%)
Water usage policies are effectively communicated to residents.	55(36.2)	61(40.1)	16(10.5)	20(13.2%)
Community leaders respond promptly to water-related issues.	66(43.3%)	60(39.5)	17(11.2%)	9(5.9%)
There are regular meetings or consultations on water management.	55(36.2%)	32(21.1%)	26(17.1%)	39(25.7%)

Source: Field work 2025

The findings show that community members largely believe there is a clear structure for managing local water resources. A combined 88.8% of respondents either strongly agreed (48%) or agreed (40.8%) with this statement, while only 11.1% expressed disagreement. This high level of agreement suggests that governance and administrative mechanisms for water resource management are visible and appreciated within the community. Regarding the communication of water usage policies, the responses were moderately positive. A total of 76.3% of respondents (36.2% strongly agree and 40.1% agree) acknowledged effective communication of policies, though 23.7% (combining the neutral and strongly disagree responses) indicated otherwise. This reflects some communication gaps and suggests a need for enhanced information dissemination, especially among community members who may not feel adequately informed. Perceptions of community leaders' responsiveness to water-related issues are similarly favorable. A notable 82.8% of respondents reported that leaders respond promptly (43.3% strongly agree, 39.5% agree). The most divergent responses were observed in relation to regular meetings or consultations on water management. Only 57.3% (36.2% strongly agree and 21.1% agree) felt such consultations occur regularly, while a substantial 42.8% disagreed (17.1% disagree and 25.7% strongly disagree).

Environmental Sanitation

The summary of the responses on environmental sanitation is as contained in table 4.4.

Table 4.4: Environmental Sanitation Responses

Statement	Strongly Agree	Agree	Neutral	Strongly Disagree
I understand what environmental sanitation means.	73(48%)	62(40.8%)	11(7.2%)	6(3.9%)
The community is regularly sensitized on sanitation issues	20(13.2%)	16(10.5%)	61(40%)	55(36.2%)
Environmental sanitation affects public health.	9(5.9%)	17(11.2%)	66(43.3%)	60(39.5%)
Clean surroundings help reduce disease outbreaks.	55(36.2%)	32(21.1%)	26(17.1%)	39(25.7%)

Source: Field work 2025

The majority of respondents demonstrated a clear understanding of the concept of environmental sanitation. A combined 88.8% agreed with the statement "I understand what environmental sanitation means," with 48% strongly agreeing and 40.8% agreeing. Only a small portion (11.1%) indicated otherwise. However, when it comes to awareness and sensitization efforts, the data paints a more concerning picture. Only 23.7% (13.2% strongly agree and 10.5% agree) believed that the community is regularly sensitized on sanitation issues. A significant majority 76.2% either selected "Neutral" or "Strongly Disagree," indicating dissatisfaction or lack of awareness. Interestingly, most respondents did not recognize or affirm the connection between environmental sanitation and public health. Only 17.1% agreed that sanitation affects health outcomes, while 82.8% expressed either uncertainty or disagreement. Finally, regarding the perception that clean surroundings help reduce disease outbreaks, responses were more balanced. About 57.3% agreed (36.2% strongly agreed and 21.1% agreed), while 42.8% expressed disagreement or uncertainty. Though the majority acknowledges the preventive health value of cleanliness, the relatively high proportion of negative or neutral responses further reinforces the need for education on the health implications of environmental hygiene.

Hypothesis Testing
Decision Rule: Accept the null hypothesis if the if the probability value >0.05 otherwise accept the alternative hypothesis.

Hypothesis One
Ho_1: Water Infrastructure Development has no significant effect on Environmental Sanitation in the Revival of the Distressed Economy of Nigeria.

Hypothesis Two
Ho1: Community Water Management Systems have no significant effect on Environmental Sanitation in the Revival of the Distressed Economy of Nigeria.

Table 4.5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.494[a]	.722	.689	3.08124
a. Predictors: (Constant), Water infrastructure development, Community water management system.				

Model Testing and Interpretation
The model summary above explains the percentage of the dependent variable (environmental sanitation), that can be determined by the independent variable (Water infrastructure development, Community water management system.). According to this Table, the dependent variables account for 72.2% (R Square, 0.722) of the independent variable. While the remaining 27.8% can be explained by other factors outside the scope of this model. This implies that water infrastructure

development and community water management system have a direct influence on environmental sanitation. This Pearson correlation coefficient (R) result also showed a positive value of 0.494, which also lends credence to the fact that predictors variable has direct relationship with the response variable.

Table 4.6: ANOVA table

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	129.014	1	129.014	4.860	.001[a]
	Residual	3982.249	151	26.548		
	Total	4111.263	152			
a. Dependent Variable: Environmental sanitation						
b. Predictors: (Constant): Water infrastructure development, Community water management system.						

The study also conducted analysis of variance to determine the extent to which the Independent and dependent variable relates with each other, and the result showed that P- value Obtained (0.001) was lower than the 5% level of significance specified in SPSS software for this analysis, therefore, according to the decision rule, the Alternate hypothesis will be accepted, while the Null hypothesis will be rejected. This implies that water infrastructure development and community water management system have significant influence on the environmental sanitation.

Table 4.7: Coefficients of Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.968	2.415		7.855	.000
	Water infrastructure development	0.318	0.104	0.177	3.057	.019
	Community water management system	0.098	0.061	0.005	1.606	.249
a. Dependent Variable: Environmental sanitation						

Simple linear regression analysis was also conducted to determine if the result established by ANOVA Statistic are similar to that of the regression coefficient. The result shows that the P-value obtained (i.e., 0.019) for the regression coefficient of recycling of waste material was also lower than the alpha level of significance of 5% specified in SPSS for this analysis therefore, thus, it can be inferred from this result, that the ANOVA Statistic is similar to that of the regression coefficient. Thus, the Alternate Hypothesis will be accepted while the Null Hypothesis will be rejected, which means water infrastructure development has a significant positive effect on the environmental sanitation.

Also, the result shows that the P-value obtained (i.e., 0.249) for the regression coefficient of working condition was also higher than the alpha level of significance of 5% specified in SPSS for this analysis therefore, thus, it can be inferred from this result. Thus, the Alternate Hypothesis will be rejected while the Null Hypothesis will be accepted, which means that community water management system has no significant positive effect on environmental sanitation.

Summary of Result

The result of this study indicates that water infrastructure development and community water management system will significantly improve environmental sanitation. This was confirmed by the result of the statistical analysis which shows that that the P-value obtained (0.019) was lower than significance value of 5% specified in SPSS for this analysis.

CONCLUSION AND RECOMMENDATION

Conclusion

In conclusion, clean water resources play a pivotal role in enhancing environmental sanitation, which is essential for the revival of Nigeria's distressed economy. The development of robust water infrastructure not only ensures the accessibility of safe water but also mitigates health risks associated with waterborne diseases. Improved sanitation facilities, driven by reliable water supply systems, foster healthier communities and enhance productivity, ultimately contributing to economic revitalization. Moreover, the implementation of community water management systems empowers local populations, promoting sustainable practices and fostering a sense of ownership over water resources. This participatory approach not only improves environmental sanitation but also strengthens community resilience and economic stability. As Nigeria continues to navigate its economic challenges, prioritizing clean water access and effective sanitation measures will be crucial. By investing in water infrastructure and community management, the nation can achieve significant strides in public health, environmental sustainability, and economic recovery, paving the way for a brighter future. The study concluded that Clean Water Resources play significant role on Environmental Sanitation in the Revival of the Distressed Economy of Nigeria

Recommendations

To effectively leverage the role of clean water resources in enhancing environmental sanitation and reviving Nigeria's distressed economy, the following recommendations are proposed:

i. The government should prioritize the establishment and maintenance of comprehensive water supply systems. This includes the construction of treatment plants, distribution networks, and storage facilities to ensure consistent access to safe drinking water.
ii. Empower local communities by establishing participatory water management programs. Training and capacity-building initiatives should be implemented to enable communities to manage their water resources effectively, fostering sustainability and ownership.

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