

**ASSESSING THE CONTRIBUTION OF THE PLATEAU RURAL WATER SUPPLY AND
SANITATION AGENCY (PRUWASSA) TO GOOD GOVERNANCE AND SUSTAINABLE
DEVELOPMENT GOAL 6 IN PLATEAU STATE, NIGERIA**

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Abstract

This study examined the role of the Plateau State Rural Water Supply and Sanitation Agency (PRUWASSA) in enhancing good governance and advancing Sustainable Development Goal 6 (SDG6) in Plateau State, Nigeria. Utilizing a qualitative research design, the paper assesses PRUWASSA's initiatives to improve water supply, promote sanitation and hygiene practices, and foster stakeholder collaboration. Grounded in the Human Rights Theory and supported by principles of Water Governance, the researcher draws empirical evidence from semi-structured, face-to-face interviews and a comprehensive review of extant documents. The findings indicate that

PRUWASSA faces persistent challenges, including inadequate funding, capacity deficits, and ineffective policy implementation. In response, this study recommends enhanced funding, the establishment of a robust monitoring and evaluation framework, and the strategic leveraging of partnerships and decentralisation to facilitate the effective implementation of water, sanitation, and hygiene interventions.

Keywords: Water, Good governance, PRUWASSA, Sanitation, SDG6, Policy

INTRODUCTION

As indicated in the SDG goals, ensuring access to improved sources of potable water constitutes a core element of a basic human right. According to statistics provided by India, there has been remarkable progress towards achieving access to improved sources of potable water in rural areas. The country has made great strides, with the availability of improved drinking water sources rising to 94.57% in 2015 to 99.62% in 2025. On the other hand, Kenya has shown an increase in usage of clean water, from 65.7% in 2017 to 68% in 2019. However, there are serious challenges faced by Nigeria as only 33% of the population has access to basic water and sanitation (Abubakar, 2024).

SDG 6 strives to ensure the availability and sustainable management of water and sanitation for all. There are several challenges associated with the lack of access to improved potable water in Nigeria. Firstly, rural dwellers as well as people living in poverty have turned to rivers and streams as their main source of water for cooking and drinking. This implies that such individuals are at risk of contamination with effluents, discharges from factories, sewage, and other kinds of wastes disposed of in rivers and streams. Urban settlers who are mostly dependent on groundwater sources, namely boreholes and deep wells, also run the risk of contamination from wastes disposed of in solid waste dumping sites and factory discharges. This presents a huge challenge to environmental public health in Nigeria (Kanu et.al 2011)

It is important to mention that intervention in water supply is extremely vital in Nigeria, as many cases of infections related to waterborne diseases have been reported. Diseases such as typhoid, cholera, and others are prevalent due to a lack of sanitation and access to clean water (Okafor, 2024). More than 66 million people living in rural and urban settlements lack access to potable water, leading to the consumption of contaminated water and causing health problems. Nigeria is slow to implement development initiatives, such as sanitation, health education, and food security. Being

endowed with rich natural resources, Nigeria needs to improve its human resources to make the most out of underdeveloped development potentials (Akoteyon, 2019).

Rural Water Supply and Sanitation Agency (PRUWASSA) was founded in Plateau State in order to help address these issues and contribute to the realization of SDG 6 by providing clean water for urban and rural residents. The Asian Development Bank (ADB) argues that there is a need for an integrated approach, recognizing connections between urban and rural water resources management that would incorporate pollution control and land use, among others (Wuyep et al, 2025). Water in Plateau State remains among the most undervalued and neglected natural resources. Water projects in the area have been employing top-down and supply-side approaches for years, which have failed to address water-related challenges due to poor community involvement, poor infrastructure management, and a lack of finances. Anthropogenic factors, as well as climate variability, affect the availability of water in terms of its quantity and quality (Yatong, 2023). There is an increasing demand for water because of population growth, urbanization, and agricultural and industrial growth, surpassing water availability (Wuyep et al 2025). It is against this background that this study aims to assess the current state of access to potable water in Plateau State, Nigeria, and to compare it with the progress recorded towards achieving SDG 6 targets. The study also seeks to identify and evaluate the key challenges affecting water supply and sanitation in both rural and urban areas of Plateau State, including contamination of surface and groundwater sources, poor infrastructure, and the limitations of top-down project approaches. It will examine the role and effectiveness of the Plateau Rural Water Supply and Sanitation Agency (PRUWASSA) in addressing these water challenges and contributing to the realization of SDG 6.

Objectives of the Study

1. Assess the current state of access to potable water in Plateau State, Nigeria, and to compare it with the progress recorded towards achieving SDG 6 targets.
2. Identify and evaluate the key challenges affecting water supply and sanitation in both rural and urban areas of Plateau State, including contamination of surface and groundwater sources, poor infrastructure, and the limitations of top-down project approaches.
3. Examine the role and effectiveness of PRUWASSA in addressing these water challenges and contributing to the realization of SDG 6.

LITERATURE REVIEW

Theoretical Review

Human Rights Theory

This paper adopted the Human Rights Theory. According to Lee et al. (2016), the UN General Comment No. 15 gives a detailed interpretation of the water right derived from Articles 11 and 12 of the International Covenant on Economic, Social and Cultural Rights. In this regard, there is the right for every person to have access to water without discrimination, which should be sufficient, acceptable, physically accessible, safe and affordable for their domestic use. There are five dimensions that form part of the legally binding right to water and include availability (50–100 liters per capita per day), quality (absence of any dangerous chemicals), acceptability (suitability for cultural practices), physical accessibility (water point less than 1,000 m or within 30 minutes of people's houses), affordability (costs of up to 3–5% of their incomes). Obligations of duty-bearers in ensuring access to water involve respect (non-interference), protection (protection from third party interferences such as elite capture or contamination), fulfillment (infrastructure construction and water access, as well as health education), and non-discrimination.

The connection between the theory and the conceptual framework can be explained in the following manner. The Human Rights Theory offers the normative background and legal provisions of the research since it states what people are entitled to in terms of accessing water and the obligations of states to meet those needs. Then, a conceptual framework consisting of indicators, such as good governance (equity, for example, water access points for marginalized communities), SDG6 Target 6.1 (definition of safely managed services), and water governance (IWRM, coordination of infrastructure development), serves as an implementation of the theory's propositions.

Empirical Review

Water, Sanitation, and Health Outcomes

Indeed, there is a great amount of literature confirming the link between WASH programmes and health benefits. Having a secure access to clean drinking water, sanitation facilities, and proper hygienic practices is indispensable in preventing diseases, enhancing well-being and increasing positive health outcomes (Prüss-Ustün et al., 2019). According to the World Health Organisation

(2021), access to improved water sources and sanitation services can help to reduce the incidence of diarrhoea cases by up to 25 percent. Goldhar, C., Bell, T., & Wolf, J. (2013). suggests that poor access to safe water and sanitation facilities in Nigeria has been the major contributing factor to child morbidity and mortality among the under-fives, leading to 70,000 annual fatalities due to dirty drinking water and unsanitary conditions. Similarly, Jumai and Alhassan (2024) suggest that seventy-three percent of the burden of diseases associated with diarrhea/enteric diseases has been caused by poor access to safe water, adequate sanitation and hygiene conditions affecting poor children predominantly.

There is also controversy among scholars concerning causal factors for successful health outcomes as far as WASH programmes are concerned. While some authors emphasize the importance of improving water quality, others highlight the role played by increases in water quantity and better sanitation facilities compared to mere improvement of water quality (Cairncross et al., 2010). For the purpose of the present project, it is important to determine whether or not water quality is essential for achieving positive health effects because it helps to determine PRUWASSA's priorities.

Governance and Service Delivery in the Water Sector

There is another set of literature dealing with the issue of governance and service delivery in the sphere of water management. Scholars agree that technical solutions cannot succeed without changes in governance systems as well (Meijer, 2015). Mgulo, & Kamazima, (2022). Prove that community involvement and accountability mechanisms are more important than initial technical quality of construction for ensuring sustainable functioning of rural water facilities. Harvey and Reed (2006) make similar arguments, stating that sustainable management of rural water supply depends on good institutional arrangements, proper financing, and community ownership rather than technical design per se.

Another controversy in the literature pertains to what kind of governance model works well for managing rural water systems. Community management proponents assert that community management is crucial to sustainability (Whittington et al., 2009). On the other hand, the critics argue that community management does not work because of a lack of capacity and inadequate resources for the disadvantaged communities to manage such programs (Harvey & Reed, 2006). Other alternatives include public-private partnership, delegated management, and professionalized

community management (Kleemeier, 2010). These debates are directly applicable to PRUWASSA's VLOM model, which is also an example of community management.

Gaps in the Literature

While there is a considerable amount of research about the WASH sector in Nigeria, several gaps exist. First, the literature lacks empirical studies focusing on state-level water agencies. Most of the existing studies tend to focus on federal policymaking and international aid programs. Second, the literature on water governance lacks analysis of the challenges of implementing integrated water resources management, decentralization, and multi-level governance in specific institutions. Finally, though the concept of human rights to water has become popular in policy discourse in the region, little empirical analysis exists on actual implementation. The above research questions help fill these knowledge gaps, since this study empirically examines how PRUWASSA is doing based on the normative framework of good governance, SDG6 goals, and principles of water governance in the light of Human Rights Theory

METHODOLOGY

Research Design

This study employs a qualitative single-case study methodology to analyze PRUWASSA's activities in Plateau State. Qualitative methods are well-suited for exploring issues related to complex governance processes and institutional actors' perceptions, in this case, of water service delivery (Yin, 2017). While quantitative methods try to identify cause-and-effect relationships among variables, case study method investigates the 'how' and 'why' questions, which are integral aspects of governance (Creswell & Poth, 2016).

Study Area and Sampling

This study focuses on rural and semi-urban communities, schools, internally displaced people (IDPs), poor families, etc. in Plateau State. Plateau State was chosen because of the high prevalence of open defecation. In particular, over 56 percent of the population in this state practices open defecation, with none of the 17 local government areas being certified OD-free (Amakom, 2009). A purposive sampling strategy was used to select information-rich informants (Patton, 2014). Sixteen face-to-face semi-structured interviews were conducted in eight groups, namely: Ministry of Water

Resources, Ministry of Local Government and Chieftaincy, PRUWASSA staff, academics, civil society organisations, household beneficiaries, village chiefs, and local government agencies. The number of interviews was determined through data saturation, where no further information emerges from additional interviews (Guest et al., 2006).

Data analysis

Data analysis employed thematic analysis according to Braun and Clarke (2006). Six stages were followed namely: familiarization, code generation, theme search, reviewing themes, theme definition, and theme report. Thematic analysis used a combination of deductive and inductive approach to generate codes. In deductive coding, codes were developed based on the conceptual framework (e.g., "participation", "transparency", "equity", "SDG6 targets", "IWRM"), and Human Rights Theory (e.g., "availability", "affordability", "grievance mechanism"). Codes in inductive approach were generated directly from the raw data (e.g., "Sato Pans", "VLOM units", "cultural barriers", "motorability"). Coding was done manually with the help of NVivo software. Negative case analysis (i.e. looking for disconfirming data) was undertaken to enhance the validity of the results. For instance, although all but one of the respondents indicated positive progress in terms of the availability of clean water, the researchers deliberately looked for data that may show otherwise.

Trustworthiness

Trustworthiness in this study is achieved through addressing four criteria as suggested by Lincoln and Guba (1985). Credibility was established through triangulation of data sources (eight stakeholder interviews and documentary reviews); member check involving returning of research summaries back to five participants for further verification; and peer debriefing by discussing the results with two external academics. Transferability was strengthened by giving detailed descriptions of research contexts, sample characteristics, and the operational environment of PRUWASSA in order for the readers to generalize the findings to other settings. Dependability was achieved through keeping an audit trail, which includes detailed documentation of every research step, such as interview guides, coding guides, and analytical memos. Confirmability was established by means of reflexively maintaining a reflective journal.

FINDINGS

PRUWASSA's Contribution to SDG6 (Safe Drinking Water)

It is clear that there was an agreement among respondents belonging to different categories regarding an improvement in safe drinking water availability. According to a Ministry of Water Resources respondent, PRUWASSA managed to contribute to increased availability of clean drinking water, improved hygiene conditions, and the creation of VLOM units that can provide sustainability; however, poor availability of resources continues to hinder the development of infrastructure in villages that are difficult to access using transport vehicles. A Ministry of Local Government and Chieftaincy Affairs respondent provided an example related to PRUWASSA's contribution to reducing the walking distances that women had to travel for accessing water in Karkashi village, Langtang South. A household beneficiary also claimed that prior to PRUWASSA interventions, there was a high level of morbidity and mortality caused by a lack of access to clean drinking water. Nevertheless, a hand-bored hole constructed by the organization helped solve the problem. Similarly, a village chief stated that PRUWASSA's initiatives allowed improving health by providing access to motorized and hand boreholes. This resulted in a reduction of occurrence of water-borne illnesses like typhoid, diarrhea, and cholera.

In accordance with the analysis conducted above, PRUWASSA was quite efficient in solving issues related to provision of physical access to clean water. However, if to take into account a rights-based perspective (Human Rights Theory), there were certain shortcomings of the organization's activities. None of the respondents was able to provide information about water quality testing, its affordability for households, or unserved populations. Lack of monitoring of PRUWASSA's performance concerning five dimensions of the right to water makes it impossible to measure how successfully this objective was fulfilled. Such a conclusion clearly confirms the discrepancy between the service delivery model and rights-based perspective, as according to the first one, PRUWASSA only has to provide physical access to drinking water.

PRUWASSA Contribution to Achievement of SDG6 Target 6.2 (Sanitation and Hygiene)

Although information collected about sanitation and hygiene issues was less than that on water supply, this topic also deserves attention. A local government respondent stated that PRUWASSA provides sanitation services in the form of Sato Pans to disadvantaged households. As a result of this

initiative, more than 800 Sato Pans were distributed to poor households in Riyom Local Government Area, allowing it to become an Open Defecation Free community. This was also confirmed by media reports that indicate the fact that Riyom LGA became an ODF community through collaboration between PRUWASSA and UNICEF (Amakom, 2009). Nevertheless, it seems that there are not too many measures aimed at achieving this goal. For instance, a Ministry of Water Resources respondent indicated that neither of the 17 LGAs within the state is ODF, and more than 56% of the region's population uses open defecation practices (Amakom, 2009). Thus, although PRUWASSA provides sanitation facilities, its contribution is quite insignificant in terms of the scale of the problem. In addition, no respondents provided information about handwashing facilities equipped with soap and water in any household interviewed.

PRUWASSA Contribution to Achievement of SDG6 Target 6.b (Community Participation)

All respondents were unanimous that PRUWASSA cooperated with community leaders and traditional structures. According to a Ministry of Local Government and Chieftaincy Affairs respondent, capacity-building training helped cope with cultural obstacles and encourage communities to maintain their water and sanitation infrastructure properly. PRUWASSA respondent indicated that the organization collaborated with NGOs and community leaders for the purpose of taking advantage of their experience for identifying communities/schools where new facilities should be established. A household beneficiary claimed that community leaders explained why it is important to protect the projects. It was stated by a village chief that capacity-building helps community leaders solve problems related to water and sanitation management. Collaboration with NGOs is very important because NGOs have better understanding of local conditions.

However, if to apply Arnstein's (1969) ladder of citizen participation theory to the research findings, it becomes apparent that PRUWASSA's initiatives are related to the lower levels. This ladder can be divided into three main groups, namely non-participation (manipulation, therapy); tokenism (informing, consultation, placation); and citizen power (partnership, delegated power, citizen control). Collaboration with community leaders belongs to the second category. Communities are being informed and consulted but cannot take decisions concerning the selection of a project site and appropriate technologies. From the Human Rights Theory perspective, consultation without the possibility of making decisions does not guarantee participation as human rights. This finding again shows the discrepancy between service delivery and rights-based models of implementation.

Collaboration with Different Stakeholders

Collaboration with various stakeholders was found to be quite common for PRUWASSA. According to a Ministry of Water Resources respondent, collaboration with local NGOs is very important since it allows addressing needs of rural population, but better coordination would allow eliminating duplications. A civil society respondent indicated that collaboration with NGOs is useful for PRUWASSA because it allows reaching a larger audience through NGOs' efforts. An academic respondent also argued that collaboration is necessary for the success of program/project implementation, as it involves the training provided by NGOs and helps to adapt projects and facilities to local conditions and encourage residents to protect them. Local government respondents pointed out that collaboration with NGOs increases community accessibility to water supply because it encourages ownership in community members.

Therefore, PRUWASSA collaborates with various stakeholders. From the point of view of multi-level governance theory (conceptual framework) used in the research, PRUWASSA's collaboration lacks formalized means of communication, namely planning forums, mutual responsibility agreements, and disputes settlement mechanism. Such a state can be the reason for duplications in PRUWASSA's operations reported by some respondents, as noted by the World Bank (2025).

Constraints and Challenges

PRUWASSA faces various constraints and challenges that negatively influence future activities of the organization. Most often, financial factors were mentioned as challenges. According to a Ministry of Water Resources respondent, limited resource availability prevents providing infrastructure development in rural areas that are hard to reach in terms of transportation. A PRUWASSA respondent also emphasized that, despite significant achievements, the organization has to strengthen local capacities. Capacity-related issues were also discussed. For instance, according to a local government respondent, although PRUWASSA can help increase capacity in water and sanitation management, there is always room for improvement. A Ministry of Local Government and Chieftaincy Affairs respondent indicated that PRUWASSA had to address cultural barriers that community leaders had to cope with. Lack of coordination was another problem faced by the organization. According to a Ministry of Water Resources respondent, better coordination is

needed for preventing duplication. This constraint correlates with World Bank (2025) conclusions about institutional capacity weakness at Nigeria's subnational level.

Discussion of Findings

Assessing the performance of PRUWASSA based on the operationalized indicators of good governance provided in section 2.1, it becomes evident that the agency performs well in some aspects and poorly in others. Regarding the first operationalized indicator related to participation, it is important to mention that PRUWASSA created VLOM units and involves community leaders in its operations; thus, the agency demonstrates good results in this aspect. Still, evaluating PRUWASSA against Arnstein's (1969) ladder of citizen participation, it is obvious that the agency belongs to the lower rungs, namely to the group of tokenism (consultation), and not to the higher rungs (citizen power, partnership).

With respect to transparency, there is no evidence that PRUWASSA discloses any information regarding budget, project selection and procurement process. This is a severe deficiency in terms of good governance since transparency is the prerequisite for both accountability and the trust between governments and citizens (Quadrat-I Elahi, K. (2009). With respect to accountability, the absence of a documented process of grievance redress is of utmost importance. In the words of Langford and Russell (2017), rights without remedies are not really rights. Hence, when water facilities fail in any way, local communities have no mechanism for lodging complaints and receiving any remedy. This observation is consistent with the critique of the service delivery model local communities are dependent on the goodwill of the agency rather than being vested with legally binding rights.

As regards responsiveness, there is a positive indicator: communities report that PRUWASSA has responded to their needs in certain locations and contributed to improving access. However, the fact that there is no system in place for addressing grievances means that it cannot be evaluated in the context of how responsive the agency is towards local issues. With respect to effectiveness, PRUWASSA reports having completed projects in targeted LGAs (Wase, Langtang North and South, Bokokos, Mangu, Riyom). However, the completion rates and the functional statuses of facilities one year after implementation could not be identified. With respect to equity, there are two positive indicators: first, PRUWASSA is targeting Sato Pans for impoverished families. Second, the agency pays special attention to internally displaced people. Yet, no systematic audit of equity was

conducted and disaggregated data based on gender, disability and geographic location was not available.

CONCLUSION

The paper highlighted the contributions of PRUWASSA in improving access to water supply and sanitation in Plateau state in relation to good governance and SDG 6. The findings suggest that PRUWASSA has been a vital agent towards improving the lives of people through improved water supply and sanitation. This is seen by the reduced walking distances to collect water and incidences of typhoid, diarrhea, and cholera in project areas. However, based on general criteria of good governance and General Comment No. 15, significant weaknesses are still evident in PRUWASWA practices. PRUWASWA does not have mechanisms of accountability, participation of the affected people, affordability criteria, and enforcement mechanisms.

The study also revealed that although PRUWASWA reports completing some water projects in some local government areas, there is no information provided about monitoring the sustainability of these projects, testing water quality after installation, and covering the whole unserved population. In regards to water governance, PRUWASWA is still a project-based entity, where some integration attempts have not produced effective results. There has been some decentralization in the form of establishing VLOM units and building capacity. However, significant transfer of power and resources has not happened, and there are no methods of coordinating the efforts between governance levels.

These findings confirm that the approach adopted by PRUWASWA is a model of service delivery rather than a model that focuses on human rights aspects. Communities are informed about water projects, but they do not participate in the decision making; there is no complaint mechanism for people, affordability issue is not discussed, and only output is being monitored. It may be concluded that for addressing the issue of good governance, some changes are needed, namely, involving citizens as rightsholders, establishing accountability of government at lower levels, having binding participation, and providing remedies for rights violation.

RECOMMENDATIONS

1. Create Rights-Based Legal and Accountability Framework

For PRUWASSA to become a rights-fulfilling body, it is essential that the Plateau State Government should introduce the Water Rights Law recognising people's right to safe drinking water and proper sanitation. The law should set minimum standards for these rights following the UN General Comment No. 15, which provides for: at least fifty litres of safe water supply per person per day; water quality conforming to WHO norms; maximum time required for collecting water of no more than thirty minutes one way; and payment of not more than three percent of family budget for water among poor population groups. In addition, it is essential that there should be a body responsible for enforcing these rights, such as the Water Rights Ombudsman. Alongside with it, there should be a mechanism for redressing any grievances, complaints or violations; such as toll-free number, sms platform and special complaints box located at each water point, together with strict deadlines on response. There should be annual rights audits that assess PRUWASSA's performance with regard to all five dimensions of water rights (availability, quality, accessibility, affordability, acceptability, non-discrimination).

2. Develop Water Governance through IWRM, Decentralisation and Multi-Level Coordination

It is essential for PRUWASSA to introduce the integrated approach to water management that encompasses both water source protection, intersectoral coordination and gender mainstreaming via women's water user committees and female mechanics for boreholes. At the same time, the decentralisation process should be taken further by creating ring-fenced maintenance fund transferred quarterly to VLOM units and local governments; and accompanied with annual refresher training, performance-based conditionality and minor repair delegation to the lowest level of governance. In order to promote multi-level water governance, PRUWASSA should establish a WASH Coordination Forum comprising of PRUWASSA itself, various ministries, local government councils, consortium of NGOs and community association representatives and meet once in a quarter; besides, the common accountability framework should be designed for them.

3. Develop Target-Specific Actions Under the SDG6 Targets

Under target 6.1 (universal and safe drinking water), PRUWASSA should expand coverage to more remote areas through the use of mobile drilling units with solar-powered pumps and conduct quarterly bacteriological testing of all water points with public dissemination of results. Regarding target 6.2 (adequate and equitable sanitation and hygiene), PRUWASSA should extend the Sato Pan

programme to other local government areas, using local production to cut the costs; implement total community-led sanitation trigger campaigns to reach open defecation free status; as well as implement school WASH clubs together with community health promoters' programme. Regarding target 6.b (participation), PRUWASSA should replace the mere consultation with binding co-decision making by communities concerning water type, location, facility maintenance, cost recovery; provide VLOM units with the start-up maintenance kits and mobile money account and sign the Memoranda of Understanding with each community.

4. Mobilise Resources and Develop Monitoring and Evaluation

For ensuring financial stability, the State Government should increase the PRUWASSA's budget allocation to at least 1.7 percent of GDP in line with the World Bank recommendations and ensure the timely release of funds. At the same time, development partners should be tapped for provision of technical assistance in terms of M&E system implementation and IWRM integration. In order to ensure the long-term viability of water services, public-private partnerships should be introduced for commercial water points in semi-urban zones, using cross-subsidies for rural community points. At the same time, PRUWASSA should develop a comprehensive M&E strategy; establish a dedicated unit with at least five percent budget allocation; use mobile phones for functionality monitoring; carry out mid-term evaluation after two years and final evaluation after five years; and hold regular data review meetings.

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