

Regional Government Obligations in Fulfilling the Right to Clean Water

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Abstract

This study examines the regional government's obligations in fulfilling the right to clean water to achieve public utility benefits, focusing on the Regional Water Utility Company (PDAM) in Bone Regency. The research adopts an empirical juridical method, combining field studies on the implementation of existing laws with data gathered through observation, interviews, and documentation. The results indicate that the fulfillment of the right to clean water by PDAM Bone Regency is not optimal. Challenges persist in three key aspects: quality, quantity, and continuity of water supply. The water quality often fails to meet standards, with issues such as turbidity reported by consumers. The quantity of water distributed remains insufficient to meet the needs of all citizens, particularly during extended dry seasons, and the continuity of water flow is inconsistent, disrupting daily activities. These issues hinder the realization of public welfare and equitable access to clean water, as mandated by Indonesia's legal framework and human rights principles. This study highlights the need for improved management, infrastructure upgrades, and policy interventions to ensure the right to clean water is upheld for all citizens of Bone Regency.

Keywords: obligations, clean water, public utility, human rights, Indonesia

1. Introduction

Access to clean water is a fundamental human right, essential for life, health, and human dignity (Ortoleva, 2010; SENGUPTA, 2010; Thornberry, 2013). The Indonesian constitution guarantees the fulfillment of human rights, including the right to water, as stated in Article 33, which mandates that essential natural resources, such as water, are controlled by the state for the greatest benefit of its people. Additionally, Law No. 17 of 2019 on Water Resources reinforces the state's obligation to ensure every citizen has access to sufficient, safe, sustainable, and affordable water for daily life.

Despite these legal guarantees, millions globally, including in Indonesia, struggle with inadequate access to clean water. Contaminated water supplies, uneven distribution, and inadequate infrastructure exacerbate water-related diseases and poverty (Mahadevan & Suardi, 2019; Thorbecke, 2013). These challenges highlight the critical role of local governments and public water utilities in providing equitable and sustainable water services. Public utilities, such as the Regional Water Utility Company (PDAM), are responsible for collecting, treating, and distributing clean water to ensure the public's right to water is fulfilled.

In Bone Regency, PDAM plays a pivotal role in managing water resources and ensuring public access to clean water. However, the company faces significant challenges in meeting service standards related to water quality, quantity, and continuity. Preliminary observations reveal persistent issues, such as poor water quality, irregular supply, and insufficient distribution capacity. These deficiencies not only hinder the realization of public welfare but also raise questions about the effectiveness of PDAM's management and the local government's commitment to fulfilling its obligations under human rights frameworks.

The right to water is not merely a basic need but a cornerstone of public welfare and sustainable development. Ensuring access to clean water requires a multidimensional approach that addresses technical, social, and policy challenges. This study seeks to evaluate the implementation of clean water rights fulfillment by PDAM Bone Regency, focusing on service quality, quantity, and continuity. It also

aims to identify gaps in policy and practice and provide recommendations to enhance the utility's effectiveness in achieving public utility goals. By examining the case of PDAM Bone Regency, this study contributes to a broader understanding of the challenges and opportunities in implementing the right to water in Indonesia. It highlights the importance of integrated water resource management, accountability, and community participation in ensuring equitable access to clean water as a human right.

2. Method

This study employs an empirical juridical research approach to examine the implementation of the right to clean water from the perspective of human rights. The empirical juridical method focuses on the practical application of legal principles and regulations in societal contexts, particularly regarding water management and service provision by the Regional Water Utility Company (PDAM) in Bone Regency. Primary data were collected through field observations, interviews, and documentation. Observations were conducted to assess the quality, quantity, and continuity of water services provided by PDAM. Interviews were carried out with key stakeholders, including PDAM officials, local government representatives, and community members who use PDAM services. These interviews aimed to understand the challenges and opportunities in fulfilling the right to water from various perspectives. Documentation involved reviewing relevant legal and policy frameworks, such as Law No. 17 of 2019 on Water Resources, regional regulations, and internal PDAM reports.

Secondary data were sourced from scholarly journals, official government publications, and statistical reports. These materials provided a broader context and theoretical foundation for analyzing the fulfillment of the right to water in Bone Regency. Data analysis was conducted using qualitative methods to interpret and contextualize the findings. Thematic analysis was applied to identify key patterns and insights from the data, focusing on three main aspects of water service provision: quality, quantity, and continuity. Legal and policy analyses were also employed to assess the alignment between current practices and the legal standards established for the right to clean water.

This study is limited to the case of PDAM Bone Regency and its service areas. While the findings provide valuable insights into the implementation of the right to water, they may not be generalizable to other regions or contexts. Nonetheless, the study offers a foundation for understanding the practical challenges in fulfilling the right to water and contributes to the development of strategies for improving water management and service delivery.

Ethical considerations were observed throughout the study. Respondents provided informed consent before participating in interviews, and confidentiality was maintained to protect their identities and opinions. The research was conducted with the aim of providing constructive feedback to PDAM Bone Regency and local government authorities to enhance the fulfillment of the right to clean water for all citizens.

3. Results

This study evaluates the implementation of the right to clean water in Bone Regency through the services provided by PDAM Bone. The findings reveal significant challenges in fulfilling this fundamental human right, with notable deficiencies in the quality, quantity, and continuity of water services. These issues, compounded by operational and infrastructural constraints, have hindered PDAM's ability to deliver equitable and reliable water access to all residents.

Water Quality

The quality of water distributed by PDAM Bone Regency is often inadequate to meet acceptable standards. Observations and interviews with community members indicated that the water is frequently turbid and sometimes emits a strong chlorine odor. These characteristics render the water unsuitable for immediate use, particularly for drinking and cooking. Residents reported that they often need to filter or let the water settle before use, which adds a layer of inconvenience and cost. Such conditions fail to align with national legal mandates, including Law No. 17 of 2019 on Water Resources, which requires the provision of clean, safe, and adequate water.

Community members expressed dissatisfaction with the lack of transparency from PDAM regarding water quality issues. While PDAM has made efforts to address these concerns, including periodic flushing of the distribution system, the outcomes remain suboptimal. Furthermore, maintenance activities are often carried out without prior notification to residents, leaving them unprepared for service disruptions. This lack of communication has further exacerbated public dissatisfaction with water quality.

Water Quantity

The quantity of water distributed by PDAM Bone is insufficient to meet the growing demands of the population, particularly during dry seasons or prolonged periods of drought. PDAM's distribution network currently serves only 19 units across Bone Regency, leaving significant portions of the population without access to piped water. Interviews with PDAM officials revealed that the limited capacity of raw water sources and reduced water flow during dry spells significantly affect the volume of water available for distribution.

Seasonal variations, such as the impacts of El Niño, have further exacerbated the issue of water scarcity. During these periods, raw water sources experience a significant decline in flow rates, leading to frequent interruptions in water supply. Residents in underserved areas often rely on alternative sources, such as wells or water vendors, which may not always provide safe or affordable options. Additionally, the high population growth in urban areas has placed increasing pressure on existing infrastructure, making it difficult for PDAM to meet demand.

Water Continuity

Water supply continuity remains one of the most significant challenges faced by PDAM Bone. Intermittent water flow is a common complaint among residents, particularly those living at the periphery of the distribution network or in higher elevation areas. Interviews with residents highlighted that some households receive water only a few hours a day, while others experience interruptions lasting several days. These inconsistencies disrupt daily activities, particularly in households with limited storage capacity.

Infrastructure deficiencies, such as frequent pipeline leaks and the aging water treatment plants, contribute to the irregular supply. PDAM officials acknowledged that while efforts are being made to repair leaks and improve infrastructure, financial and logistical constraints limit their ability to address these issues comprehensively. For instance, the Wollangi water source, once capable of serving over 7,000 connections, now supports only 5,000 due to significant reductions in raw water availability.

Customer Perceptions

The study also explored customer perceptions of PDAM services, revealing widespread dissatisfaction with the quality, quantity, and continuity of water supply. Many residents expressed frustration with inconsistent services and the perceived lack of responsiveness from PDAM. Survey data indicated that a majority of customers rated PDAM's overall performance as poor, citing delays in addressing complaints and a lack of proactive communication about service disruptions.

The reliance on alternative water sources, such as bottled water or private wells, reflects the community's lack of trust in PDAM's ability to fulfill its obligations. In urban areas, this has led to increased financial burdens on households, particularly those with limited income. The inability to provide reliable water services undermines public confidence in PDAM and raises broader concerns about the government's commitment to fulfilling the right to clean water.

Operational Challenges

PDAM Bone faces numerous operational challenges that impede its ability to provide high-quality services. Limited raw water availability, particularly during dry seasons, remains a persistent issue. Furthermore, the company operates with aging infrastructure that requires significant investment for repairs and upgrades. Financial constraints limit PDAM's ability to expand its distribution network to underserved areas or invest in new technologies to improve water treatment processes. Human resource challenges also emerged as a concern, with PDAM officials highlighting the need for additional training and capacity building to enhance operational efficiency. The high number of customer complaints,

particularly regarding insufficient water supply and delays in addressing issues, underscores the need for better management practices and stronger customer service mechanisms.

4. Discussion

The results of this study reveal significant challenges in the implementation of the right to clean water in Bone Regency, as provided by PDAM Bone. While legal frameworks, such as Law No. 17 of 2019 on Water Resources, mandate the state to ensure adequate, safe, and sustainable water access, the findings indicate substantial gaps in fulfilling this obligation. This discussion examines these gaps in relation to the three key dimensions of water service provision—quality, quantity, and continuity—while also addressing broader operational and policy implications.

Water Quality and Public Trust

Water quality is a fundamental aspect of the right to clean water, yet PDAM Bone struggles to meet acceptable standards. Turbid water and the presence of chlorine odors highlight deficiencies in water treatment processes. Such issues not only undermine public trust but also pose health risks, particularly for vulnerable populations (Fischer, 2003; Hickmann et al., 2021). These findings are consistent with prior studies emphasizing the importance of water safety as a core element of human rights fulfillment. The lack of transparency and communication from PDAM regarding water quality issues further erodes customer confidence. Residents expressed frustration over the absence of timely notifications about service disruptions or maintenance activities, leaving them unprepared for interruptions. Improved communication strategies and investments in modern water treatment technologies are essential to address these quality concerns and rebuild public trust.

Quantity: Balancing Supply and Demand

The insufficient quantity of water distributed by PDAM Bone reflects broader systemic issues in water resource management. Limited raw water availability, particularly during dry seasons, restricts PDAM's ability to meet the growing demands of Bone Regency's population. Seasonal variations, such as those caused by El Niño, exacerbate these shortages, leaving many households without access to piped water for extended periods (Berrang-Ford et al., 2011; Branca et al., 2013; Xie et al., 2014). This scarcity is indicative of a mismatch between water resource planning and population growth. As urbanization continues, the pressure on existing infrastructure increases, highlighting the need for a more proactive approach to resource management. Expanding raw water sources, implementing water conservation measures, and optimizing distribution networks are critical steps toward achieving an equitable supply-demand balance.

Continuity: Ensuring Reliable Access

Continuity of water supply is vital for daily activities and the broader goal of human welfare. The intermittent water flow experienced by residents in Bone Regency disrupts basic needs, such as cooking, cleaning, and hygiene. Factors such as pipeline leaks, aging infrastructure, and the limited capacity of water treatment facilities contribute to these interruptions. PDAM Bone's efforts to repair leaks and improve infrastructure are commendable but insufficient in addressing the scale of the problem. A more comprehensive infrastructure modernization plan, supported by increased financial and technical resources, is necessary to ensure a consistent and reliable water supply (Buck, 2016; Rahmani, 2023). Additionally, prioritizing underserved areas in the distribution network would help reduce regional disparities in water access.

Customer Perceptions and Accountability

The widespread dissatisfaction among PDAM customers underscores the need for improved accountability and responsiveness. Residents frequently cited delays in addressing complaints and the lack of proactive communication as major sources of frustration. This disconnect between service providers and users reflects broader governance challenges in public utilities (Okechukwu et al., 2024; Phyu, 2021). Strengthening customer service mechanisms, including more efficient complaint resolution processes and regular feedback systems, can enhance accountability and customer satisfaction. Moreover, fostering community participation in decision-making processes can help align PDAM's operations with the needs and expectations of its users.

Operational and Policy Implications

The operational challenges faced by PDAM Bone, including limited financial resources, aging infrastructure, and insufficient raw water supply, highlight the need for integrated water resource management. Coordination between local governments, PDAM, and other stakeholders is essential to develop long-term strategies that address these systemic issues. Policy interventions, such as incentivizing investments in water infrastructure and enhancing regulatory oversight, can support PDAM's efforts to improve service delivery. Furthermore, adopting innovative technologies, such as smart metering and real-time monitoring systems, can enhance operational efficiency and resource management.

Regional Equity in Water Access

The disparities in water access between urban and rural areas raise critical questions about equity and inclusiveness. While urban centers often receive better services, rural and remote communities remain underserved, contradicting the principles of human rights and public utility (Lines, 2008; Lord & Stein, 2008). Addressing these disparities requires targeted policies and investments to extend water services to marginalized areas.

Broader Implications for the Right to Water

The findings of this study have broader implications for the realization of the right to water in Indonesia. They highlight the need for a multidimensional approach that integrates technical, social, and policy perspectives. Ensuring clean water access is not just a matter of infrastructure but also of governance, accountability, and community engagement.

5. Conclusion

This study highlights the challenges in fulfilling the right to clean water as a fundamental human right, focusing on the services provided by PDAM Bone Regency. Despite the legal framework established by Law No. 17 of 2019 on Water Resources and other regulations, the implementation of clean water services by PDAM Bone remains suboptimal. Key findings from the study can be summarized as follows: First, the quality of water distributed by PDAM Bone often fails to meet acceptable standards, with frequent reports of turbidity and chlorine odors. These issues undermine public trust in the water supply and raise concerns about health and safety, particularly for vulnerable populations.

Second, the quantity of water supplied is insufficient to meet the needs of the growing population, particularly during dry seasons when raw water availability declines significantly. This limitation has led to unequal access, with underserved communities relying on alternative and often less reliable water sources. Third, the continuity of water flow is inconsistent, disrupting daily activities and affecting the overall quality of life for residents. Infrastructure issues, such as aging pipelines and limited treatment capacity, exacerbate this challenge and require significant investments for modernization. Fourth, customer dissatisfaction is widespread, reflecting gaps in accountability, communication, and responsiveness. Delayed resolution of complaints and inadequate engagement with the community highlight the need for stronger governance mechanisms within PDAM Bone.

Finally, regional disparities in water access between urban and rural areas remain a critical concern, contradicting the principles of equity and inclusiveness that underpin the right to water. Addressing these disparities requires targeted interventions and a commitment to serving marginalized communities. This study concludes that fulfilling the right to clean water in Bone Regency requires a multidimensional approach. Investments in infrastructure, improvements in operational efficiency, and enhanced governance are essential to addressing the identified gaps. Policy reforms that incentivize resource optimization and foster collaboration between stakeholders will also be critical in achieving sustainable and equitable water access.

Future research should explore the long-term impacts of these challenges on public health and socioeconomic conditions. Comparative studies involving other regions could provide valuable insights into best practices for improving water service delivery and fulfilling the right to clean water in Indonesia.

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