

Analysis of The Basic Water Tariff Accounting System at The Regional Water Company (PDAM) of Soppeng Regency

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Abstract

The determination of basic water tariffs plays an important role in PDAM financial management because it affects the company's revenue and the quality of service provided to customers. The accounting system is used as a tool to calculate and record the cost components that are used as a reference in determining water tariffs. This study aims to examine the application of the accounting system in the process of determining basic water tariffs at PDAM Soppeng Regency. This study uses a descriptive quantitative approach because it presents basic water tariff calculations based on cost and water volume data obtained from PDAM Soppeng Regency. In addition, this approach is enriched with qualitative elements through interviews and observations of the tariff setting process and the application of accounting systems at PDAM Soppeng Regency. Based on the results of the study, it is known that the accounting system used contains important elements such as operational costs, maintenance, and various other types of expenses. However, several obstacles were still found, such as cost recording that was not entirely accurate and a lack of transparency in the tariff setting process to the public. Therefore, a system evaluation and periodic training for employees are needed so that the implementation of the accounting system at PDAM can run more optimally and in accordance with regulations.

INTRODUCTION

The state has a responsibility to guarantee the right of every citizen to access water to meet their basic daily needs in order to support a healthy, clean, and productive life. These needs will always increase and develop in line with population growth and progress in various fields as a result of development, because as progress increases, so do the needs of the community (Rawung et al., 2023).

The continuous annual population growth directly causes an increase in the need for drinking water, prompting the central government to improve the implementation of a drinking water supply system (SPAM) that meets the requirements of quality, quantity, continuity, and affordability for the community (Nurrisa & Hermina, 2025). To protect the interests of the community, the law stipulates that water resource management is under the control of the state and must be utilized as much as possible for the equitable welfare of the people (Hopkins, 1998).

The management of water resources by the state is carried out by the central and local

governments. As a form of the state's obligation to provide clean water, the government has issued Government Regulation No. 122 of 2015 concerning the Drinking Water Supply System (SPAM).

Regional Drinking Water Companies (PDAM), which are Regional Owned Enterprises (BUMD), play an important role in distributing clean water to the community. According to (Sarnita, 2018), PDAM has a very bright economic outlook in the future, as evidenced by the continuous growth in the number of customers. PDAM Soppeng Regency, as one of the BUMDs in South Sulawesi Province, has the primary responsibility of providing public services in the field of supplying clean, healthy, and standard-compliant drinking water to the community in the Soppeng Regency area (Afdhal, 2022).

Determining the basic water tariff is an important factor that affects the operational sustainability of PDAM. If the tariff set is too low, the company risks being unable to cover operational costs or obtain adequate profits. Conversely, rates that are too high can be a burden on the community as service users. The Ministry of Home Affairs has calculated the minimum and maximum rates per region to serve as a guideline for PDAMs, therefore every water company must set basic water rates for its customers so that customers can no longer manipulate the predetermined water rates (Arifin & Amang, 2022).

The setting of water tariffs at PDAM is based on the following principles: (1) affordability and fairness; (2) service quality; (3) cost recovery; (4) water use efficiency; (5) transparency and accountability; and (6) raw water protection (Permendagri Number 71 of 2016). These principles form the basis for PDAM Soppeng Regency in setting basic water tariffs (Samosir et al., 2023).

However, in practice, the determination of basic water tariffs at PDAM Soppeng Regency still faces a number of problems. Some of these are related to determining the appropriate cost components, inconsistent tariff calculation methods, and customer grouping that is not yet fully optimal. In addition, technical constraints such as pipe leaks, water theft, and limited human resources also affect the effectiveness of the accounting system used. This shows that PDAM Kabupaten Soppeng has not been fully able to implement an ideal and sustainable tariff setting system (Azmanajaya et al., 2022).

These problems can have an impact on the financial performance of PDAM Kabupaten Soppeng. Based on preliminary data, the Non-Revenue Water (NRW) rate of PDAM Kabupaten Soppeng was very high, at around 58.19% in 2022, far above the national tolerance limit of 25% allowed in the operation of SPAM by BUMD Air Minum (Pekerjaan et al., n.d.). This condition indicates that more than half of the water volume produced does not generate revenue due to leaks, theft, or inaccurate recording.

A review of the basic water tariff accounting system at PDAM Kabupaten Soppeng is important to analyze cost components, calculation methods, customer classification, and tariff setting procedures, which are expected to provide a clear picture of the actual condition of the basic water tariff accounting system at PDAM Kabupaten Soppeng.

METHOD

According to Khanif (2011), a research method is a series of systematic steps used to collect, analyze, and compile data to answer research problems or questions, with the aim of obtaining valid and accountable conclusions. This method serves as a scientific approach to collecting data for specific purposes, as a tool, and as a theory that helps simplify problems so that they are easier to understand and solve (Sugiyono, n.d.). Thus, the research method is an important step in any scientific process that aims to produce valid and accountable findings.

This study uses a descriptive quantitative approach, which aims to provide an overview of

the calculation of basic water tariffs based on cost and water volume data from the Soppeng Regency PDAM. This approach is complemented by qualitative elements through interviews and observations, which aim to explore more deeply the process of tariff setting and the application of the accounting system used in the field. With this approach, researchers can obtain a comprehensive picture of the accounting system applied to the determination of basic water tariffs at PDAM Soppeng Regency (Situru et al., 2026).

This research be conducted from April to May 2025, with the research location at the PDAM Office located on Jl. Neneurang, Bila, Kec. Lalabata, Soppeng Regency. The data used in this study consists of primary data obtained directly through interviews with relevant parties and secondary data obtained through documents related to the accounting system for determining basic water tariffs, such as financial reports, tariff determination policies, local regulations, and other documents. All of this data will be used to analyze the accounting system for determining tariffs at PDAM Soppeng Regency.

The data collection methods in this study involved interviews, observation, documentation, and literature study. Interviews were conducted with parties directly related to the water tariff accounting system at PDAM Soppeng Regency. Observation was conducted to directly observe the implementation of the accounting system in the field, while documentation was used to collect various documents related to water tariff setting (WAHYUNI, n.d.). Literature studies were used to enrich the researcher's understanding of the topic being studied by examining relevant literature or previous research. With comprehensive data collection, the researcher was able to develop a valid analysis of the application of the accounting system in basic water tariff setting (FAISAL, n.d.).

RESULTS AND DISCUSSION

A. Results

Accounting Analysis of Basic Water Tariff Setting at the Regional Water Company (PDAM) of Soppeng Regency

Basis for Tariff Calculation

The calculation and setting of drinking water tariffs by PDAM Soppeng Regency is based on (PERMENDAGRI, 2016)

a. Affordability and Fairness

Affordability refers to:

- 1) The tariff for basic drinking water needs is adjusted to the payment capacity of customers with an income equal to the Provincial Minimum Wage, and does not exceed 4% (four percent) of the customer's income;
- 2) Tariff setting for basic drinking water needs for Low-Income Communities applies a maximum tariff equal to the low tariff.

Equity refers to:

- 1) The application of differentiated tariffs with cross-subsidies between customer groups; and
- 2) The application of progressive tariffs in order to encourage water conservation.

b. Service quality

Service quality is achieved through the setting of tariffs that take into account the balance with the level of service quality received by customers.

c. Cost recovery

Cost recovery aims to cover operational and drinking water service development needs.

Cost recovery is obtained from the calculation of the minimum average tariff equal to the base cost. Meanwhile, cost recovery for drinking water service development is obtained from the calculation of the average tariff to cover the full cost. The full cost includes a reasonable profit based on the profit-to-asset ratio of at least 10% (ten percent).

d. Water usage efficiency

Water usage efficiency and raw water protection are achieved through the imposition of progressive tariffs. These progressive tariffs are calculated by setting consumption blocks that are imposed on customers whose consumption exceeds the basic drinking water requirement standard.

e. Transparency and accountability

Transparency and accountability are applied in the tariff calculation and setting process. Transparency is achieved, among other things, by:

- 1) Gathering customer input related to tariff calculation and setting plans.
- 2) Communicating information related to tariff calculation plans to customers.

Meanwhile, accountability in the calculation and setting of drinking water tariffs is measured if the calculation and setting can be justified in accordance with the provisions of the law.

B. Discussion

Based on data from the 2023 Work Plan and Budget (RKA) of Perumdam Tirta Ompo, Soppeng Regency, the average tariff currently applied by PDAM Soppeng is IDR 4,020 per m³, while the FCR tariff calculation based on full costs shows a figure of IDR 3,903 per m³. This difference shows a discrepancy of IDR 117/m³, which reflects the mismatch between the set tariff and the actual cost of water supply. This means that every cubic meter of water sold results in an operational loss of IDR 117 because the revenue is not sufficient to cover the full cost of water production and distribution. Therefore, PDAM Soppeng still relies on local government support or internal efficiency to cover this shortfall.

CONCLUSIONS AND SUGGESTION

A. Conclusion

This study shows that the basic water tariff accounting system implemented by PDAM Soppeng Regency has covered important cost elements such as operational costs, depreciation, loan interest, and other administrative costs. However, the tariff calculation results using the Full Cost Recovery (FCR) approach show a difference between the ideal tariff of IDR 4,020/m³ and the actual tariff charged to customers of IDR 3,903/m³. This difference indicates that the applicable tariff does not yet reflect all operational costs, meaning that PDAM has not been able to fully implement the FCR principle.

The main factors influencing this condition include the high level of water loss (Non-Revenue Water), which reaches 47%, and limited human resources in cost accounting management. In addition, considerations regarding the purchasing power of the community are also reasons why tariffs cannot be fully adjusted to production costs. Therefore, PDAM needs to improve operational efficiency and strengthen human resource capacity so that the tariff setting system can be carried out more accurately and sustainably. Support from the local government in the form of regulations and subsidies is also needed so that PDAM remains able to provide quality clean water services without burdening the community.

B. Suggestions

This study shows that the basic water tariff accounting system implemented by PDAM Soppeng Regency has covered important cost elements such as operational costs, depreciation, loan interest, and other administrative costs. However, the tariff calculation results using the Full Cost Recovery (FCR) approach show a difference between the ideal tariff of IDR 4,020/m³ and the actual tariff charged to customers of IDR 3,903/m³. This difference indicates that the applicable tariff does not yet reflect all operational costs, meaning that PDAM has not been able to fully implement the FCR principle.

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To improve the water tariff accounting system at PDAM Soppeng Regency, several improvements need to be made. First, efforts to reduce the rate of water loss (Non-Revenue Water), which reaches 47%, must be a priority, through infrastructure improvements and routine maintenance. Second, PDAM needs to increase its human resource capacity in cost accounting management so that tariff calculations are more accurate and in line with operational costs. Additionally, tariff adjustments should be considered while considering the purchasing power of the community, while still covering all production costs. Support from the local government, both in the form of supportive regulations and subsidies, is also crucial to ensure fair tariffs without burdening the community. With these steps, it is hoped that PDAM can provide higher quality and sustainable clean water services.

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