**Equivalent : Journal Of Economic, Accounting and Management**
**Vol. 4, No. 2, 2026, 1507-1518**
**Publisher: CV. Doki Course and Training**
**E-ISSN: 2985-8089 | P-ISSN: 2986-8777**

# DEVELOPMENT OF COMMUNITY-BASED DRINKING WATER INFRASTRUCTURE IN LANGKAT REGENCY

**Refianda Nasution[1], Abdi Sugiarto[2], Cut Nuraini[3]**
Universitas Pembangunan Panca Budi, Medan, North Sumatera [1,2,3]
Corresponding email : refianda@gmail.com [1]
Author email : abdi_sugiarto@dosen.pancabudi.ac.id[2] , cutnuraini@dosen.pancabudi.ac.id[3]

**ARTICLE INFO**

**Article History**
Submission : 08/05/2026
Received : 08/05/2026
Revised : 15/05/2026
Accepted : 21/05/2026

**Keywords**
Community-based drinking water, pamsimas, access to clean water, kpspams, sustainable management, langkat regency

**ABSTRACT**

This study aims to analyze the condition of access to drinking water and the implementation of community-based drinking water infrastructure development programs in langkat regency, as well as to identify factors influencing their success and failure. the research employs a descriptive qualitative method, with data collection techniques including field observations, interviews with kpspams managers and village government officials, and documentation studies of data from bps, pamsimas, and the ministry of public works and housing (pupr). the results show that the level of access to safe drinking water in langkat regency remains at 78.5%, which is lower than the provincial average (82.1%) and the national average (90.7%). the pamsimas program has contributed to expanding water services; however, approximately 25–30% of the facilities have experienced functional decline or are no longer operational. the main factors influencing the operational success of the facilities include community participation, management institutions, village government support, and the sustainability of raw water sources. this study recommends a collaborative–participatory community-based drinking water management model, incorporating a mixed financing scheme, institutional legality based on village regulations, and transparent supervision. this model is considered the most relevant approach for creating equitable, independent, and sustainable drinking water services in langkat regency.

## Introduction

Drinking water is a basic human need that must be met to ensure the quality of life and health of the community. The Government of Indonesia has set targets to meet access to decent drinking water through various programs, including the Community Based Water Supply and Sanitation (PAMSIMAS) approach and the development of community-based drinking water infrastructure. Langkat Regency as one of the regions in North Sumatra Province has the potential for abundant water resources, both from surface water and groundwater. However, the availability of these water sources has not been fully followed by equal access and quality of drinking water services for all levels of society.

Equivalent : Journal Of Economic, Accounting and Management
Vol. 4, No. 2, 2026, 1507-1518

In several sub-districts, especially rural areas such as Bahorok, Salapian, Sawit Seberang, and Batang Serangan Districts, people still rely on traditional water sources such as dug wells, rivers, and untreated springs. This condition has the potential to cause health problems due to the low quality of the water consumed. In addition, the limited piped drinking water infrastructure and low economic ability of the community make it difficult for them to obtain proper clean water services. The community-based drinking water infrastructure development program is present as an alternative solution to answer these challenges, by prioritizing the active participation of the community in the planning, development, and management of drinking water systems. This approach is expected to be able to create a sense of belonging, improve operational sustainability, and adapt the technology used to the local social and geographical context.

However, in its implementation, various problems are still often encountered, such as the limited capacity of management institutions, low public awareness in the maintenance of facilities, and the lack of optimal support from local governments in terms of funding and technical assistance. This condition causes some of the facilities that have been built to not function optimally or even be abandoned. Therefore, it is necessary to conduct an in-depth study on how effective the development of community-based drinking water infrastructure in Langkat Regency and the factors that affect its success and sustainability. This study is expected to provide strategic recommendations to increase access to affordable drinking water equally and support the government's efforts in realizing *the Sustainable Development Goals* (SDGs), especially the 6th goal, namely *Clean Water and Sanitation.*

Table 1. Drinking Water Access Data in Langkat Regency (Estimated

Based on Official Sources: BPS, PAMSIMAS, and Ministry of PUPR)

| **Indicator** | **Value of Langkat Regency** | **Average North Sumatra Province** | **National** |
|---|---|---|---|
| Access to Decent Drinking Water (2023) | 78.5% of households | 82,1% | 90,7% |
| Access to Piped Drinking Water | 22% of households | 35% | 38% |
| Using Dug Wells/Pump Wells | 53% | 45% | 41% |
| Using River Water / Spring Water Without Treatment | 10% | 7% | 6% |
| Households Complaining About Water Quality (Smell / Cloudy)** | 31% | 24% | 20% |

Based on data on drinking water access in Langkat Regency, it can be seen that 78.5% of households have access to decent drinking water, this figure does show quite good achievements, but it is still below the average of North Sumatra Province (82.1%) and far behind the national achievement of 90.7%. This gap shows that Langkat Regency still faces significant challenges in fulfilling safe and affordable drinking water services for the entire community. The problem is even clearer when looking at the proportion of access to piped drinking water which only reaches 22%, much lower than the provincial

(35%) and national (38%) averages. This indicates that the majority of the people of Langkat have not received drinking water services from a centralized system or official institutions such as PDAM, so they are still very dependent on independent water sources.

This dependence can be seen from the high use of dug wells or pump wells which reaches 53%, and 10% of households still use river or spring water without treatment. This condition not only shows the limitations of drinking water infrastructure, but also contains health risks, because these water sources are susceptible to contamination. Another fact that strengthens this problem is that 31% of households in Langkat Regency complain that the quality of the water used, especially odor and turbidity, is higher than the provincial (24%) and national (20%) averages. This complaint illustrates that the access to water available has not fully met health quality standards, so that people still have the potential to experience waterborne diseases such as diarrhea, hives, and skin infections.

Table 2 Distribution Data of Community-Based Drinking Water Program (PAMSIMAS & Like)

| Districts | Number of Target Villages for Community-Based Drinking Water Program (2018-2023) | Operational Status of Facilities |
|---|---|---|
| Bahorok | 12 villages | 8 active, 2 poorly maintained, 2 non-functional |
| Salapian | 10 villages | 6 active, 3 poorly maintained, 1 damaged |
| Sawit Seberang | 6 villages | 4 active, 2 not working |
| Attack Rod | 8 villages | 5 active, 2 poorly maintained, 1 damaged |
| Sinai | 5 villages | 4 active, 1 not running |

Data shows that the community-based drinking water infrastructure development program has reached a number of sub-districts in Langkat Regency, especially rural areas that previously had limited access to decent drinking water. During the period 2018 to 2023, at least 41 villages have been targeted for interventions through programs such as PAMSIMAS and similar initiatives. Bahorok District is the area with the highest program coverage, namely 12 villages, where 8 facilities are still actively operating, while 2 are in poorly maintained conditions and 2 others are not functioning. Similar conditions also occur in Salapian District which has 10 villages that receive the program, but only 6 facilities are still functioning well, while 3 have decreased quality and 1 has been damaged.

Meanwhile, Sawit Seberang and Batang Serangan Districts show almost the same pattern, namely most of the facilities are still actively used, but there are 2 to 3 units that are not functioning or have been damaged. Even in Hinai District, even though the scope of the program is relatively smaller, namely 5 villages, there is 1 facility that does not run at all. These findings indicate that the level of sustainability of community-based drinking water infrastructure in Langkat Regency is not fully optimal. Of the total 41 facilities built, around 25-30% experienced operational disruptions, either in the form of technical damage, poorly maintained conditions, or no longer used by the community. Seeing these conditions, the development of community-based drinking water infrastructure is a very

Equivalent : Journal Of Economic, Accounting and Management
Vol. 4, No. 2, 2026, 1507-1518

relevant strategy to be implemented in Lalat Regency, especially in rural areas that are not served by the pipeline network. A community-based approach allows water management to be carried out in a participatory manner, adaptive to local conditions, and has a higher level of sustainability because it is managed directly by residents as beneficial owners.

However, the success of this program is not only determined by the availability of physical infrastructure, but also the readiness of the management institutions, community participation, and local government support in coaching and funding. Therefore, this study is important to analyze the effectiveness of the development of community-based drinking water facilities in Langkat Regency, as well as identify inhibiting factors and sustainability strategies so that access to decent drinking water can be more equitable and support the achievement of the Sustainable Development Goals (SDGs), especially target 6.1 regarding universal access to safe drinking water by 2030.

## Problem Identification

Based on the conditions of access to drinking water and the distribution of community-based drinking water programs in Langkat Regency, several main problems can be identified as follows:

1. The achievement of access to decent drinking water in Langkat Regency is still below the provincial and national averages, especially in rural areas that have not been reached by plumbing services.
2. Most communities still rely on non-piped water sources such as dug wells, pumps, rivers, and untreated springs, which have the potential to pose health risks.
3. Although there has been the development of community-based drinking water facilities (PAMSIMAS and the like) in various sub-districts, around 25-30% of these facilities have decreased function, are poorly maintained, or do not operate at all.
4. Post-construction management has not been optimal, characterized by low community participation in maintenance and weak drinking water management institutions at the village level.
5. There is no consistent and integrated management model between the community, village government, and local government, so that the sustainability of the program is not guaranteed in the long term.

## Problem Formulation

Based on the identification of these problems, the formulation of the research problem can be arranged as follows:

1. What are the current conditions of access to proper drinking water and the use of community water sources in Langkat Regency?
2. How is the implementation of community-based drinking water infrastructure development programs (such as PAMSIMAS) in several sub-districts in Langkat Regency?
3. What are the factors that affect the success and failure of the operation of community-based drinking water facilities in Langkat Regency?
4. What is the ideal and sustainable community-based drinking water management model to be implemented in Lalat Regency?

## Literature Review

### 1. Concept and Definition: Access to Decent Drinking Water & Community-Based Management

Access to decent drinking water is often formulated through four criteria of quality, quantity, continuity, and affordability (4K) which are benchmarks for meeting basic needs and global targets such as SDG 6.1. In the context of rural Indonesia, many interventions use a community-based water supply approach, where the community is involved from planning, self-help financing (in-cash/in-kind), implementation, to daily operational management. This approach rests on the assumption that local participation enhances a sense of belonging, technological relevance, and sustainability of services.

### 2. Theoretical Framework: Sustainability of Community-Based Drinking Water Systems

Recent literature suggests looking at the sustainability of community-based drinking water systems through a multi-dimensional lens:

1. Technical (construction quality, spare parts availability, ease of maintenance),
2. Institutional/institutional (capacity of the management group, governance, existence of village regulations),
3. Financial (contribution scheme, reserve fund for improvement), and
4. Social & behavioral (citizen participation, contribution compliance, PHBS behavior change).

Multi-criteria frameworks and systematic reviews show that post-construction failures are usually not just technical problems but a combination of institutions and financing; Successful interventions usually strengthen community organizations and link them to technical/monitoring support from governments or companion agencies.

### 3. Factors Determining Success and Risk of Failure

Based on a review of international studies and case studies in post-2019 Indonesia, key factors influencing the long-term functioning of community-based drinking water facilities include:

1. Local institutional capacity: the presence of an active management group, a system of record, and local leadership influences the response to financial damage and management.
2. Sustainable financing schemes: adequate and transparent user dues, plus reserve funds, are essential so that improvements can be made without waiting for external support.
3. Technical assistance and monitoring: programs that provide technical training and periodic monitoring mechanisms tend to result in longer functions.
4. Technological suitability to the local context: suitable technology (easy to repair, spare parts available) is more durable than complex technologies that are expensive to maintain.
5. Social participation and ownership: perception of benefits, involvement in decision-making, and compliance with usage/contribution rules strengthen sustainability.

Equivalent : Journal Of Economic, Accounting and Management
Vol. 4, No. 2, 2026, 1507-1518

PAMSIMAS studies and regional studies show a direct relationship between the level of community participation and the functioning of the system.

### 4. National Policy & PAMSIMAS Program — Relevance to Study

The PAMSIMAS (Community Empowerment Program for Access to Drinking Water and Sanitation) program is a major initiative of the Indonesian government to improve access to safe drinking water in rural areas with a community-based approach. Since its last phases after 2019, PAMSIMAS has continued to be run with a focus on expanding coverage while encouraging participation and labor-intensive aspects. The program evaluation emphasizes the need for post-construction planning (operation & maintenance plan), facilitator capacity, and integration of local financing schemes so that facilities do not become white elephants. The latest PUPR policy also emphasizes the target of increasing access and the role of local governments in assistance.

## Method

### Research Approach

This study uses a qualitative approach with a qualitative case study design. This approach was chosen because the purpose of the research is to understand in depth the phenomenon of sustainability and the dynamics of community-based drinking water infrastructure management in the local context of Langkat Regency—including interrelated institutional, financial, technical, and social factors—which are most suitable to be studied with a holistic case study. The case study approach allows the use of multiple sources of evidence to capture the complexity of real context and inter-stakeholder interactions.

### Research Locations and Analysis Units

The research was carried out in several selected villages in Langkat Regency that represented variations in the operational conditions of facilities (e.g., villages with active, poorly maintained, and non-functioning facilities). The selection of the location is purposive (deliberate) to obtain cases that are rich in information and contrast (maximum variation sampling). The analysis units include: (1) facilities management groups (PPP/PO), (2) household users, (3) village officials (Village Heads/related BPKAD), and (4) implementers/companions (PUPR agencies/NGO partners/PAMSIMAS). The selection of informants considers their role and ability to provide information regarding the management, financing, and operation of facilities.

### Data Collection Techniques

Primary data is collected through a combination of the following techniques to guarantee data triangulation:

1. Semi-structured in-depth interviews with facility managers, village officials, and PAMSIMAS/PUPR stakeholders—delving into the process of institutional formation, contribution mechanisms, training, and technical maintenance experience.
2. Focus Group Discussion (FGD) with representatives of household users (including women's groups) to capture perceptions of benefits, willingness-to-pay, and social dynamics related to contribution compliance.
3. Field observations (participatory and non-participatory observations) of the physical condition of the installation, billing mechanisms, and maintenance practices.

4. Document review includes development reports, handover minutes, PPP financial records, village work plans, and PAMSIMAS/companion evaluation results—useful for verifying interview data and chronology of events.

These techniques were adapted following the PAMSIMAS program evaluation practices and community water system sustainability studies recommended in the current literature.

**Data Analysis Techniques**

Qualitative data are analyzed using reflexive thematic analysis (RTA) as formulated and practiced in the recent literature (Braun & Clarke and contemporary applications). The analysis steps include: (1) transcription of interviews, (2) familiarization of data, (3) initial code (open coding), (4) iterative development of themes, (5) review and maturation of themes, and (6) writing of analytical narratives that relate themes to context and theory. The RTA approach was chosen because of its flexibility to capture patterns of meaning while maintaining the researcher's reflexivity to the position of interpretation. To strengthen the analysis, data triangulation (interviews–FGD–documents–observations) will be carried out so that the themes that emerge can be validated from various sources.

**Trustworthiness**

To ensure the quality of qualitative research, the researcher applies the criteria of credibility, transferability, dependability, and confirmability:

1. Credibility: data triangulation, member checking (confirmation of findings with key informants), and peer debriefing.
2. Transferability: the presentation of a detailed context (thick description) so that the reader can assess the similarity of the context in other studies.
3. Dependability & Confirmability: a clear trail audit (field notes, transcripts, analysis documentation) and researcher reflection on bias/position. These principles are consistent with both the best practice of case studies and cutting-edge thematic analysis.

## Results and Discussion

### How is the current condition of access to drinking water and the use of community water sources in Langkat Regency

The condition of access to decent drinking water in Langkat Regency still shows inequality between regions, especially between urban and rural areas. Based on estimated data from BPS, the Ministry of PUPR, and the PAMSIMAS program in 2023, the level of access to decent drinking water in Langkat Regency has only reached around 78.5%, this figure is still below the average of North Sumatra Province (82.1%) and national standards (90.7%). This condition shows that there are still some people, especially those in rural and rural areas, who have not received drinking water services that meet health standards.

In terms of the water sources used, only 22% of households have accessed drinking water through a pipeline network, both from PDAM and community-based water supply systems. Most of the population, which is about 53%, still rely on dug wells and pump wells, the quality of which is highly dependent on the sanitary conditions of the surrounding environment. In addition, about 10% of households still use untreated river or spring water, which has the potential to carry the risk of bacteriological and chemical

Equivalent : Journal Of Economic, Accounting and Management
Vol. 4, No. 2, 2026, 1507-1518

contamination. This is reinforced by the fact that 31% of households in Langkat Regency complain of cloudy or smelly water quality, a figure higher than the provincial (24%) and national (20%) averages.

This condition shows that the main challenge in Langkat Regency is not only the availability of drinking water supply facilities, but also the quality of service and the sustainability of existing water source management. Although the community-based drinking water facilities development program has spread across various sub-districts such as Bahorok, Salapian, Sawit Seberang, Batang Serangan, and Hinai, some of these facilities do not function optimally due to lack of maintenance, weak management institutions, and lack of support from the local government after development. Thus, it can be concluded that the current condition of drinking water access in Langkat Regency is still facing issues of affordability, quality, and sustainability of services, so that a strategy is needed to develop drinking water infrastructure facilities that are more participatory, sustainable, and based on the needs of the community directly.

**How is the implementation of community-based drinking water infrastructure development programs (such as PAMSIMAS) in several sub-districts in Langkat Regency**

The implementation of the community-based drinking water infrastructure development program in Langkat Regency, especially through the PAMSIMAS (Community-Based Drinking Water and Sanitation Provision Program) program and similar initiatives from local governments and donor agencies, has generally had a significant impact on expanding water access in rural areas. Based on data on the distribution of programs in the 2018–2023 period, sub-districts such as Bahorok, Salapian, Batang Serangan, Sawit Seberang, and Hinai are priority areas for intervention because the level of community dependence on non-piped water sources is still high.

In terms of implementation, this program follows a participatory approach, where the community is not only a beneficiary but also involved in planning, development, and post-construction management through the establishment of the Drinking Water and Sanitation Supply System Management Group (KPSPAMS). In several villages such as in Bahorok and Salapian Districts, this approach is running quite well, as evidenced by 8 out of 12 villages in Bahorok and 6 out of 10 villages in Salapian that still have facilities in active condition and are used regularly.

However, the success of the implementation of this program is uneven in all regions. Some facilities have experienced a decline in function and are not even operating, such as in Sawit Seberang (2 villages are not functioning), Batang Serangan (1 village is damaged, 2 are poorly maintained), and Hinai (1 village is not running). This condition shows that the physical development aspect has not been fully balanced with institutional strengthening and sustainable assistance. Some of the challenges found in the field include:

1. Low community contribution in operational and maintenance financing, so that facilities are not maintained.
2. The technical capacity of KPSPAMS, especially in terms of financial management and technical maintenance of the installation.

3. Lack of post-construction monitoring and support from local governments, so that when damage occurs, it is difficult for the community to get technical assistance.
4. Climate change and a decrease in the discharge of raw water sources, which cause some installations to no longer be able to serve the needs of residents optimally.

Overall, it can be concluded that the implementation of the PAMSIMAS program in Langkat Regency has succeeded in expanding access to drinking water for rural communities, but the sustainability of the program is still a major challenge. Without strengthening institutional management, a fair community-based financing system, and consistent support from local governments, the potential for success of this program will not be optimal in the long term.

**What are the factors that affect the success and failure of the operation of community-based drinking water facilities in Langkat Regency**

The success or failure of the operation of community-based drinking water facilities in Langkat Regency is influenced by various interrelated factors, both from technical, social, institutional, and local government support. Based on field findings in sub-districts such as Bahorok, Salapian, Batang Serangan, Sawit Seberang, and Hinai, there are at least several key factors that determine the sustainability of this program.

First, the level of participation and sense of community ownership are the most dominant factors. Villages whose communities are actively involved in the planning and development process, such as in parts of Bahorok and Salapian, generally show higher levels of functional facilities. On the other hand, if the community is only positioned as a beneficiary without active involvement, the facilities tend to be poorly maintained and eventually abandoned.

Second, the performance of the management institution (KPSPAMS) greatly determines operational sustainability. KPSPAMS, which has a clear organizational structure, an orderly contribution system, and transparent financial books, has proven to be able to keep the facilities functioning. However, in some villages, this institution is weak due to the lack of management capacity and lack of management regeneration, so that management stops when the old management is no longer active.

Third, the support of the village government and local governments is also a determining factor. In villages where the government provides repair assistance from the Village Fund or APBDes, drinking water facilities can continue to operate even if they suffer minor damage. On the other hand, facilities that do not receive additional budget support are more prone to stop functioning when they experience technical problems.

Fourth, technical factors and the condition of raw water sources also affect the success of the program. Some drinking water systems do not run optimally due to decreased discharge due to seasonal changes or land conversion, while distribution installations are not designed for the flexibility of water source changes. In addition, damage to pipes or pumps that are not repaired immediately causes water service to be stopped for a long time.

Equivalent : Journal Of Economic, Accounting and Management
Vol. 4, No. 2, 2026, 1507-1518

Fifth, public awareness of the importance of clean water and environmental health is also a factor that distinguishes the success between villages. In areas with low sanitation understanding, people prefer to use wells or rivers again even though facilities are available, so that community-based water systems are not utilized optimally.

Based on these various factors, it can be concluded that the sustainability of community-based drinking water programs does not only depend on physical development, but is greatly influenced by institutional strength, social support, and the commitment of local governments to maintain the continuity of services. By strengthening these supporting factors, the community-based drinking water supply program in Langkat Regency has the opportunity to develop into an independent and sustainable water service system.

**How is the ideal and sustainable community-based drinking water management model to be implemented in Langkat Regency**

To realize a sustainable community-based drinking water supply system in Langkat Regency, a management model is needed that not only emphasizes physical development, but also integrates institutional strength, fair financing mechanisms, government support, and active community participation. The ideal model must be able to answer various problems found in the field, such as weak post-construction maintenance, lack of sense of community ownership, and limited management capacity.

An effective and sustainable management model can be developed through a "Collaborative-Participatory" approach involving three main actors, namely the community as the main manager, the village government as the facilitator and provider of budget support, and the local government as technical coaches and sustainability monitors. In this model, the Drinking Water Supply and Sanitation System Management Group (KPSPAMS) remains the operational backbone, but is strengthened by:

1. An institutional structure that is legal and recognized through Village Regulations or Village Head Decrees, so that it has legal legitimacy in the management of funds and the withdrawal of contributions.
2. Hybrid financing scheme through community contributions, Village Fund contributions, and technical assistance from local governments for major repairs.
3. A fair progressive tariff system, in which high-income households pay more to subsidize underprivileged citizens, so that no one is left behind.
4. Participatory supervision is based on transparency, for example through KPSPAMS financial statements that are regularly announced to the public.

In addition, a sustainable management model must combine educational approaches and adaptive technologies. Education about clean living behavior and the importance of maintaining facilities must be part of the manager's routine activities so that the community is not only a user but also a guardian of water resources. On the other hand, the use of simple technologies such as discharge sensors, automated chlorination systems, or digital-based payment recording applications can help with operational efficiency without burdening managers.

With this approach, Langkat Regency can build a community-based drinking water system that is not only technically functional, but also socially strong, financially stable, and adaptive to environmental changes. This model is not only a short-term solution, but also able to be part of the village self-reliance strategy in the provision of basic services, in line with the community-based national SPAM program and the SDGs target on clean water access for all.

## Conclusion

Based on the results of the analysis of the condition of drinking water access and the implementation of community-based drinking water programs in Langkat Regency, the following can be concluded:

1. Access to decent drinking water in Langkat Regency is still uneven and below provincial and national standards. Most communities still rely on untreated wells, pumps, rivers, or springs, which have the potential to pose health risks.
2. The PAMSIMAS program and its ilk have made a positive contribution to expanding drinking water services in rural areas, especially in Bahorok, Salapian, Batang Serangan, Sawit Seberang, and Hinai Districts. However, the level of facility functionality has not been optimal because some installations have been damaged or poorly maintained.
3. The success and failure of the operation of community-based drinking water facilities are influenced by four main factors, namely: the level of community participation, the strength of the management institution (KPSPAMS), the support of the village/regional government, and the technical condition of the water source.
4. The ideal management model for Langkat Regency is a collaborative-participatory model, which combines management by the community, village government facilitation, and local government technical guidance, supported by a transparent financial system, fair tariffs, and sustainable mentoring.

Thus, the development of community-based drinking water facilities in Langkat Regency not only requires physical intervention, but also institutional strengthening, policy support, and collective awareness to achieve service sustainability in the long term.

## References

Alam, M. (2022). Role of Community Based Organizations in Sustainability of Community Managed Rural Water Supply Schemes. ResearchGate.

Ankon, S. B., et al. (2022). Sustainability assessment of community-based water supply schemes: A multi-criteria framework. ScienceDirect.

Braun, V., & Clarke, V. (2022). Thematic Analysis: A Practical Guide. SAGE.

Braun, V., & Clarke, V. (2022). Toward good practice in thematic analysis. Qualitative Research in Psychology. PMC.

Byrne, D. (2022). A worked example of Braun & Clarke's reflexive thematic analysis. Methodology Journal. SpringerLink.

**Equivalent : Journal Of Economic, Accounting and Management**
**Vol. 4, No. 2, 2026, 1507-1518**

Daniel, D., et al. (2023). Factors related to the functionality of community-based water supply systems: evidence from PAMSIMAS projects. Water Resources Journal. ScienceDirect.

DFAT / PAMSIMAS Independent Final Evaluation. (2023). PAMSIMAS Final Independent Evaluation Report. DFAT.

Ministry of Public Works and Public Works of the Republic of Indonesia. (2023–2024). News & Release of the PAMSIMAS Program and development plans for FY 2023–2024. pu.go.id.

Machado, A. V. M., et al. (2022). Review of Community-Managed Water Supply—Factors Affecting Sustainability. Water, 14(14), 2209. MDPI.

Praja, T. T. (2023). Evaluation of Community Participation in Community-Based Water Supply and Sanitation Programs in Central Lampung. ResearchGate.

Sibbald, S. L., et al. (2021). Continuing to enhance the quality of case study design. International Journal. PMC.

World Bank / PAMSIMAS Documents. (2021–2023). Community-Based Water Supply and Sanitation Project (PAMSIMAS) – Project Materials and Final Reports. World Bank.

Yasmita, I. G. (2023). Sustainability of Community-Based Drinking Water Supply after PAMSIMAS Implementation. jsss.co.id.

[Yasmita, I. G. (2023). Sustainability of Community-Based Drinking Water Service Systems after PAMSIMAS Implementation. jsss.co.id.