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EVALUATION OF COMMUNITY PARTICIPATION IN COMMUNITY-BASED DRINKING WATER AND SANITATION PROGRAM

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ABSTRACT

Evaluation of Community Participation in Community-Based Drinking Water and Sanitation Programs. The availability of clean water plays a major role in fulfilling the need for drinking water and sanitation, which are absolute necessities in human life. The Sustainable Development Goals (SDGs) aim to reduce the proportion of the population without access to safe and sustainable drinking water and basic facilities by half. Access to clean water and sanitation facilities is still difficult in some areas, triggering the implementation of the PAMSIMAS Program. Community involvement is critical to the program's sustainability. This study aims to analyze the forms and factors supporting and hindering community participation in the PAMSIMAS Program and the environmental benefits of areas that receive the PAMSIMAS Program in Rantau Jaya Ilir village. Central Lampung Regency. This study employs a descriptive qualitative approach, incorporating SWOT analysis. Planning for community participation in the PAMSIMAS Program is underway. The study's findings show that community participation has the ability to properly manage the program and meet water needs. Age, gender, level of education, type of work, income, and knowledge are all internal factors. Government policies and regulations play a crucial role as external factors. Based on the research that was done, stakeholders were told to invite the community to each socialization meeting and give suggestions. This way of developing the PAMSIMAS Program community empowerment can be copied and used to create infrastructure development programs in other places. This will help the regional government even more, and the government program for drinking water infrastructure and sanitation is expected to continue and be sustainable so that the infrastructure is kept up and working.

INTRODUCTION

The availability of clean water plays a major role in fulfilling the need for drinking water and sanitation, which are absolute necessities for human survival [1]. The availability of clean

water is crucial for human life [2]. Limited provision of clean water for the community can have an impact on public health, economic productivity, and the community's overall quality of life. Meeting the need for drinking water and sanitation in 2030 has also been outlined in a Sustainable Development Goals (SDG) target [3] [4].

The concept of sustainable development, as contained in the SDGs, is also included in the 2020–2024 RPJMN document. The clean water sector is the one that has received attention among the various areas of development [5]. Specifically, in national priority activities, one of the targets to be achieved in 2024 for the residential infrastructure development and development program is to achieve 100% access to adequate drinking water services and adequate sanitation for the entire population of Indonesia [6] [7].

According to data from the Central Statistics Agency (2020), in 2019, adequate access to clean water in Indonesia reached 89.27 percent, and adequate sanitation reached 77.39 percent. Furthermore, the 1945 Constitution mandates the government to improve the welfare of its people, which includes building various infrastructure and facilities for providing drinking water throughout Indonesia, both in urban and rural areas [8]. Based on this, the Central Government has implemented various types of programs related to drinking water, sanitation, and sustainable public health, one of which is the Community-Based Drinking Water and Sanitation Provision (PAMSIMAS) program [9] [10] [11].

The PAMSIMAS program serves as the primary facilitator in enhancing access for rural and peri-urban residents, as well as in fostering a clean and healthy living community by providing adequate drinking water and sanitation services through a community-based approach [12]. The community-based approach views the community as the primary actor and determinant in every stage of development, from planning and implementation to operation and maintenance [14]. Community participation in the PAMSIMAS program to improve environmental health and cleanliness is important and central to the success of development programs [15]. [16]. Community involvement in the implementation of development and the contribution made by the community to development to achieve development goals are benchmarks for program success [17] [18] [19].

Based on the Decree of the Minister of Public Works and Public Housing Number 195/KPTS/M/2016 concerning Determination of Target Districts for the Second Phase of the Community-Based Drinking Water and Sanitation Provision Program, Central Lampung Regency was designated as one of the target districts for implementing the PAMSIMAS program in 2017 [20] [21]. One of the target villages for the implementation of PAMSIMAS phase III, which will take place during the 2016–2020 period in Central Lampung Regency, is Kampung Rantau Jaya Ilir. The PAMSIMAS program implemented in Kampung Rantau Jaya Ilir was inaugurated on December 29, 2020, and is still running to date with a total of 150 program recipients. (DPU Central Lampung Regency, 2022). Apart from that, the low level of community access to drinking water and sanitation in Kampung Rantau Jaya Ilir can be seen through the Village Development Index (IDM) value in 2018, namely 0.5429, which classifies Kampung Rantau Jaya Ilir as a village with underdeveloped status (Ministry of Villages, Development Disadvantaged Regions, and Transmigration, 2018) [22] [23]. The sustainability of the program that has been developed is essential to ensure the provision of drinking water in the Kampung Rantau Jaya Ilir area, especially during the dry season (DPU, Central Lampung Regency, 2022) [24] [25] [26]. Based on these facts, it is necessary to analyze community participation in the community-based drinking water and sanitation provision program in Kampung Rantau Jaya Ilir, Central Lampung Regency.

MATERIALS AND RESEARCH METHODS

This section explains the specific steps involved in carrying out SWOT analysis. For example, consider how data is collected, analyzed, and interpreted in the context of SWOT.

This study utilizes quantitative, qualitative, and descriptive research. According to Bogdan and Taylor (1992), qualitative research methods are a process of trying to find out about a

social or humanitarian problem based on efforts to build a complex (holistic) picture, formed in words or descriptions by reporting detailed views.

We use a qualitative approach to descriptively explain the factors that disrupt the sustainability of drinking water facilities for the Pamsimas program, drawing on literature reviews from journals, articles, guidebooks, and documents related to the discussed topics. Meanwhile, we use a quantitative approach to determine the extent of these factors' influence. These factors influence participation in providing community-based drinking water and sanitation (Pamsimas) in Kampung Rantau Jaya Ilir, Central Lampung Regency.

According to this research, the population that benefits from the PAMSIMAS program is composed of 180 families.

Data collection technique

1. The task involves preparing a questionnaire based on attachment D to the Minister of Public Works Regulation Number 18 of 2007, which pertains to the development of drinking water supply systems.
2. This research uses a free (guided) interview technique with respondents from communities that use clean water, with the aim of making the interview process more focused. This technique includes questions related to daily water use per person, patterns of water consumption, type of work, and income per capita.

The data analysis techniques used in this research are descriptive analysis techniques, frequency distribution, and cross-tabulation multivariate analysis.

Technical aspects will be identified regarding the location of PAMSIMAS as well as the current condition of PAMSIMAS buildings, starting from raw water sources, reservoirs, pipe networks, public taps, pumps, public hydrants (HU), school sanitation facilities, and CTPS facilities. Meanwhile, management bodies and operational fees from the PAMSIMAS program in Kampung Rantau Jaya Ilir will be identified, with the goal of identifying the conditions of the Community-Based Drinking Water and Sanitation Provision (PAMSIMAS) program

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RESEARCH RESULTS AND DISCUSSION

Benefits of PAMSIMAS

The PAMSIMAS program, which was built using simple technology that can be carried out and maintained by the community, provides increased access to clean water in every element of society; there is an increase in house connections because the community feels satisfied with the provision of clean and quality water. The research involves community participation in the benefits obtained based on primary and secondary data on the PAMSIMAS program being implemented. The assessment of the given questionnaire identifies the outcomes. The 14 questionnaire questions resulted in an average rating of 83.73%, with very suitable information. And 61.67% of theSixty-six percent of the average answers addressed topics such as water availability, water quality, promoting a clean lifestyle, constructing clean water facilities in the village, and preventing environmental damage. e of the five main benefits of the PAMSIMAS program, which is responsible for increased access to clean water. The establishment of PAMSIMAS is a manifestation of the community's quality of life regarding environmental aspects by prioritizing clean and healthy living behavior (PHBS).

The facilities available for the implementation of the Pamsimas program include water tower buildings, drilled wells, water pumps, electricity meters, water pipes, and water taps. The implementation of the research results consists of building water towers, drilled wells, water pumps, electricity meters, water pipes, and water taps. This is in accordance with the program contained in the regulations on water quality (Permenkes No. 416/MENKES/PER/IX199), which contain odorless, colorless, and tasteless water. The condition of the water received by the community is in accordance with MENKES regulations, namely that 149 houses are used for activities such as washing, bathing, and cooking. On average, the community water flow in Rantau Jaya Ilir village, Central Lampung Regency, is 26–50 m3/month. If the community's water requirements have been met properly, the

average contribution, or amount of money that must be paid, is IDR 1,000/m3. The average monthly costs incurred by people who take advantage of the Pamsimas program range from IDR 30,000 to IDR 35,000 per month. This cost is low, and the government's assistance makes clean water more affordable for the community to live a clean and healthy lifestyle while protecting aspects of the surrounding environment.

The results of the Pamsimas program are increased access to clean water in every element of society; there is an increase in house connections because the community feels satisfied with the provision of clean and quality water. Previously, people used private or dug wells to meet their daily water needs, and when there was a dry season, the availability of water from private wells was slightly disrupted because dug wells on average could only be dug 7 to 10 meters deep. The community receives a decent source of clean water to meet their daily needs for washing, bathing, and cooking. The long-term impact of this program includes cost savings for the community and promotes a clean and healthy lifestyle in Rantau Jaya Ilir village, Central Lampung Regency.

Society participation

The PAMSIMAS program is managed by five components, one of which is community participation empowerment. The community is the primary stakeholder in program implementation. The community has a full role in deciding, planning, implementing, operating, and maintaining existing drinking water and sanitation facilities and infrastructure in a self-managed manner. Table 1 illustrates the community's participation in the PAMSIMAS socialization event.

Organizers provide socialization and counseling for the community to realize the PAMSIMAS program, including training in pre-construction development, administrative and financial management, and equipment maintenance. The results obtained from community participation outreach and counseling are the realization of programs for the community. With socialization, the community gains useful knowledge and the ability to manage the program well and be able to meet water needs.

Table 1. Community Participation (Analysis, 2023)

Society participation	Results	Impact
Attend the PAMSIMAS program socialization	The PAMSIMAS program is realized well and the water needs in people's lives can be met and the role of the community is very helpful in providing program infrastructure and facilities.	Affordability of clean water facilities for the community and improving the quality of clean life for the community.

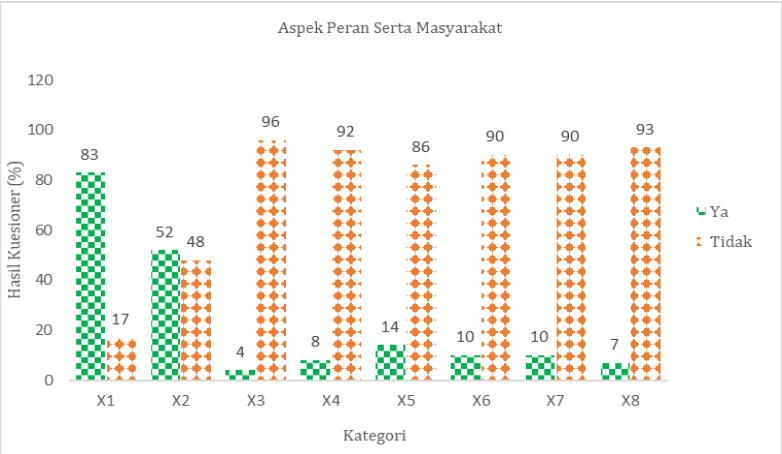

Figure 1.Aspects of Community Participation

Information:
X1 = Implement healthy and clean-living behavior (PHBS)
X2 = Wash hands before activity
X3 = engaged in routine village activities
X4 = involved in recycling organic waste.
X5 = Offer constructive criticism or suggestions to RT/RW
X6 = Talk to local residents about water and sanitation management.
X7 = Participate in PAMSIMAS counseling
X8 = Participate in PHBS counseling

The results of the community role questionnaire in the PAMSIMAS program can be seen in Figure 1, which illustrates the need to increase the community's role again. Then, the SWOT analysis provides a community participation strategy for the PAMSIMAS Program
The internal factor matrix calculates the weight, rating, and score of each factor, ensuring that the total weight does not exceed 1.00. It assigns a value to each factor on a scale ranging from 1 (no influence) to 5 (very influential). The results of the internal strategic factor analysis in the table above show that the internal factors, strength factors, have a total score of 2.10, while weakness factors have a total score of 2.00. Next, the strength and weakness factors were subtracted, and the total internal factor score was obtained, namely 0.09, as shown in Table 2.

The external factor matrix calculation (Table 3) uses a scale of 1 (not influential) to 5 (very influential) to calculate the value of each factor. The results of the analysis of external strategic factors in the table above show that internal factors, such as strength factors, have a total score of 2.26, while weakness factors have a total score of 1.83.

Next, the strengths and weaknesses were subtracted, and the total internal factor score was 0.44. After obtaining the overall score, the internal factors have a value of 0.09 and the external factors have a value of 0.44. These values are then entered into the Cartesian diagram to determine which quadrant a program currently running is in, as illustrated in Figure 2.

Based on the SWOT analysis diagram (Figure 2), it is evident that the community's participation in the Pamsimas program falls into quadrant I. This quadrant presents an opportunity, and the strength of this situation can significantly facilitate the implementation of actions aimed at maximizing the program's created and implemented potential. This allows for the formation of a strategy that balances the strengths and weaknesses of the program.

Then, in Table 4, a strategy for quadrant I was prepared. The role of community groups in planning Pamsimas generally involves community representatives managing and receiving assistance at the community level. Therefore, community groups play a crucial role in maintaining accountability and transparency in the implementation of Pamsimas through the application of human values, society, and democracy in the real life of society, as well as the development of rules (code of ethics, code of conduct, etc.) within PAMSIMAS.

Table 2. Calculation of Internal Factor Weights and Ratings

	Strategic Factors	**Weight**	**Ratings**	**Score**
Strength	Community participation in providing clean water is very high	0.09	4.04	0.36
	The community supports the PAMSIMAS program	0.08	4.26	0.34
	The community supports the development of PAMSIMAS	0.08	4.06	0.32
	The community strongly participates in operation and maintenance	0.09	4.22	0.38
	The institution guarantees the development of PAMSIMAS infrastructure and is responsible	0.08	3.92	0.31
	Availability of clean water becomes easier to obtain	0.09	4.14	0.37
	Sub Total Score			2.10
Weakness	There is a delay in paying water fees	0.09	4.14	0.37
	Lack of training and operation and maintenance of PAMSIMAS	0.08	3.98	0.32
	Lack of education regarding the provision of clean water facilities and infrastructure	0.08	4.1	0.33
	The process of managing bookkeeping and finances is delayed	0.08	4.14	0.33
	Lack of public trust in clean water management and facilities	0.08	4.1	0.33

The community does not support the PAMSIMAS program	0.08	4.06	0.32
Sub Total Score			2.00
Grand Sub Total	1		0.09

Table 3. Calculation of Weights and Ratings of External Factors

	Strategic Factors	**Weight**	**Ratings**	**Score**
Opportunity	There is assistance from the government and the private sector regarding the PAMSIMAS program	0.12	3.9	0.47
	Maintenance and repairs are carried out so that PAMSIMAS remains sustainable	0.11	4.02	0.44
	Affordable clean water fees	0.11	4.18	0.46
	More effective policies and regulations in the sustainability of clean water facilities	0.11	4.02	0.44
	Becomes a means of clean water if there is no or damage to the raw water pipe	0.11	4.08	0.45
	Sub Total Score			2.26
Threat	Communication does not work well if there is a delay in paying water fees	0.11	4.26	0.47
	Damage to clean water facilities due to slow maintenance processes	0.11	4.22	0.46
	Relevant institutions or the government are not responsible for the PAMSIMAS program	0.11	4.1	0.45
	If it does not comply with the commitment, the clean water supply system will not work well	0.11	4.02	0.44
	Sub Total Score			1.83
	Overall Sub Score	1		0.44

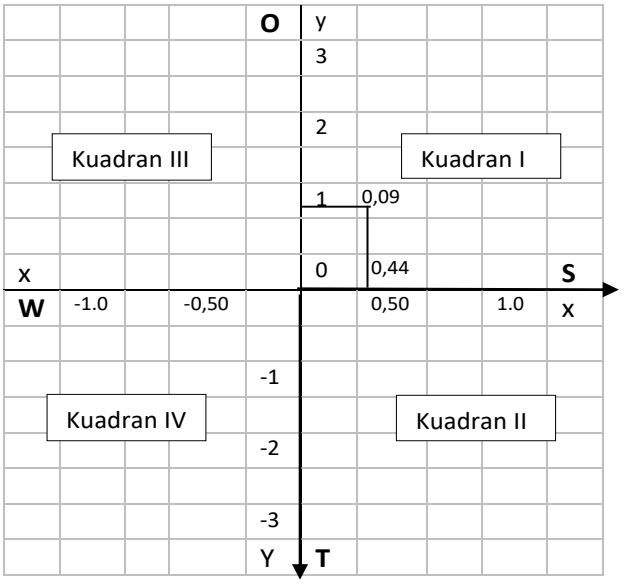

Figure 2. SWOT Analysis Diagram Results

Table 4. Strategies in quadrant I

Strategic Factors	**Strength**	**Weakness**
	Community participation in providing clean water is very high	There is a delay in paying water fees
	The community supports the PAMSIMAS program	Lack of training and operation and maintenance of PAMSIMAS
	The community supports the development of PAMSIMAS	Lack of education regarding the provision of clean water facilities and infrastructure
	The community strongly participates in operation and maintenance	The process of managing bookkeeping and finances is delayed
	The institution guarantees the development of PAMSIMAS infrastructure and is responsible	Lack of public trust in clean water management and facilities
	Availability of clean water becomes easier to obtain	The community does not support the PAMSIMAS program
Opportunity	**Strength-Opportunity**	**Opportunities-Weaknesses**
There is assistance from the government and the private sector regarding the PAMSIMAS program	Increase public education from institutions and the government regarding the importance of the PAMSIMAS program	Provide understanding to the community about the importance of paying water fees so that the PAMSIMAS program can be sustainable
Maintenance and repairs are carried out so that PAMSIMAS remains sustainable		
Affordable clean water fees	Institutions or the government can facilitate if there are suggestions from the community as evaluation material	Provide training to the community so they understand how to maintain and repair so that the program continues to run well
More effective policies and regulations in the sustainability of clean water facilities		
Becomes a means of clean water if there is no or damage to the raw water pipe	Increasing the quantity of continuity and affordability so that it runs sustainably	Providing public education to ensure a clean and healthy lifestyle, especially institutions and the government
	Encourage the community to maintain and care for the programs provided so that PHBS can be realized	Selecting managers with good commitment to the sustainability of the PAMSIMAS program
Threat	**Threat-Power**	**Threats-Weaknesses**
Communication does not work well if there is a delay in paying water fees	Increasing community participation requires good communication from the management, so that PAMSIMAS program users comply with the policies in the program	Institutions or the government provide guidance to the PAMSIMAS program so that it remains sustainable
Damage to clean water facilities due to slow maintenance processes		
Relevant institutions or the government are not responsible for the PAMSIMAS program	Create a technical team that is reliable in the field they work on	Provide direction to comply with existing rotations in the PAMSIMAS program
If it does not comply with the commitment, the clean water supply system will not work well	Increasing synergy between government institutions and the community must be implemented in implementing the PAMSIMAS program	

SWOT analysis has already been mentioned but can be further deepened. Consider providing a more comprehensive elucidation of the interplay between strengths, weaknesses, opportunities, and threats, and their impact on community participation.

CONCLUSIONS AND RECOMMENDATIONS

The village of Rantau Jaya Ilir has implemented PAMSIMAS facilities and infrastructure. Central Lampung Regency includes drinking water and sanitation facilities. The results of the analysis encourage the community to realize that the PAMSIMAS program, which was built using simple technology, can be carried out and maintained by the community, accompanied by the program organizers. The analysis provides more concrete recommendations on how to increase direct community participation.

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