

OPTIMIZATION OF VILLAGE WATER MANAGEMENT: DEVELOPMENT OF SOP BP-SPAMS FOR SUKALAKSANA VILLAGE, SAMARANG, GARUT

Indri Yuliafitri^{*}, Sri Mulyani

Universitas Padjadjaran

Jl. Raya Bandung Sumedang KM.21, Hegarmanah, Kec. Jatinangor, Kabupaten Sumedang, Jawa Barat 45363,
Indonesia

Email: indri.yuliafitri@unpad.ac.id

Abstract

Sukalaksana Village, located in Samarang District, Garut, possesses abundant natural water resources. However, the community-based water management unit, BP-SPAMS, faces significant operational challenges due to the absence of standardized procedures. This community service program aims to improve the governance of clean water services by formulating context-specific Standard Operating Procedures (SOPs) and implementing digital financial recording systems. Using a Participatory Rural Appraisal (PRA) approach, the program engaged local stakeholders, including BP-SPAMS staff, BUMDes management, and village officials, in all stages from problem mapping to evaluation. The activities included field observations, focus group discussions, SOP drafting and training, as well as technical assistance through on-the-job learning. Eight tailored SOP documents were successfully developed covering core operational aspects, from water distribution and meter inspection to payment processing and financial reporting. In addition, the transition from manual to digital bookkeeping was facilitated through practical workshops. The implementation of SOPs and digital systems has led to increased efficiency, transparency, and staff professionalism. It also enhanced public trust and stakeholder participation, while opening up opportunities to replicate the initiative in other village enterprises. This program demonstrates how capacity building through structured procedures and digital tools can significantly strengthen village-level public service delivery and support sustainable development goals.

Keywords: Standard Operating Procedures, BP-SPAMS, Village Governance, Digital Financial Recording, Community Engagement, Clean Water Services

INTRODUCTION

Villages play a central role as the main hub in the development process aimed at improving the welfare of the community. Currently, the principle of sustainable development has begun to be implemented at the village level, in line with the commitment of the Sustainable Development Goals (SDGs), namely “no one left behind.” This commitment emphasizes that rural communities are a top priority in various development programs initiated by the government.

Sukalaksana Village in Samarang Sub-district, Garut Regency, is an area blessed with significant natural resource potential, particularly in terms of abundant mountain spring water availability. These springs, originating from forested mountainous areas, serve as the primary source of clean water for the local community. This water potential is not only sufficient to meet the needs of Sukalaksana Village residents but can also be developed as a public service for surrounding villages (Setiati, 2023).

This potential poses a significant challenge for the village: how to optimize its available resources to meet the clean water needs of its residents. In the context of sustainable development, community-based water resource management plays a crucial role. BP-SPAMS (Water Supply and Sanitation Management Agency), an institution formed by the village community, is responsible for managing the distribution of clean water independently. Therefore, the establishment of BP-SPAMS, as a business unit engaged in water supply and sanitation under the auspices of BUMDes Bina Laksana, is expected to meet the clean water access needs of the village residents.

However, despite its great potential, BP-SPAMS still faces various operational challenges that affect its effectiveness. One of the main issues is the lack of clarity in the operational procedures that must be followed in carrying out daily tasks. Without clear Standard Operating Procedures (SOPs), the management of BP-SPAMS becomes unstructured and tends to rely on unilateral decisions or procedures that are still improvisational. This has the potential to cause inconsistencies in services, which ultimately impacts the quality of services provided to the community (Satyonovi, et al., 2022). Standard Operating Procedures (SOPs) are an important instrument for ensuring that operational activities are consistent, efficient, and transparent (Susanti et al., 2021).

According to Nugroho and Sulastri (2020), SPAMS management without SOPs tends to face challenges such as overlapping tasks, low accountability, and weak monitoring and evaluation systems. Therefore, the formulation of SOPs that are appropriate to the local context is an urgent need for BP-SPAMS Sukalaksana in order to maximize the utilization of water resources, improve service quality, and maintain the long-term sustainability of the drinking water distribution system.

In addition to issues related to SOPs, BP-SPAMS also faces challenges in terms of financial management. As a unit that must be oriented towards efficiency and sustainability, the financial recording system currently in use is still manual, which has the potential to cause errors in calculations and transaction recording. This manual method also hinders transparent audit and reporting processes and complicates monitoring of cash flow, which is crucial for strategic decisions within this business unit (Istiqomah, 2023). In this context, transitioning to digital recording is a crucial step toward improving efficiency and accuracy.

The importance of SOPs and digital recording in improving the performance of BP-SPAMS is in line with the opinion of Widyarini et al. (2020), who state that the use of SOPs in every operational process will minimize errors caused by irregularities and provide clearer guidance for staff. The implementation of SOPs can also improve time and resource management, which will ultimately increase the productivity of the business unit. Thus, the development of appropriate SOPs and the implementation of a digital-based accounting system are expected to make a significant contribution to creating more professional and effective management of BP-SPAMS, as well as increasing public trust in the services provided.

IMPLEMENTATION METHOD

The implementation of this community service activity uses the Participatory Rural Appraisal (PRA) approach, in which the community and BUMDes officials are actively involved in the entire process from program planning to evaluation. This approach was chosen so that the activity would not be top-down, but rather would be able to explore local knowledge and strengthen the internal capacity of BP-SPAMS as the implementer of village public services. PRA is highly effective in a village context because it emphasizes participation, problem mapping, and community-based solution finding (Chambers, 1994).

The initial stages began with direct observation and problem mapping in the field. The student team, along with their supervisors, conducted a survey of the BP-SPAMS work structure, water distribution flow, payment mechanisms, and financial recording processes that had been carried out to date. Field observations revealed that the operational system was not well-documented and heavily reliant on informal practices. This highlights the importance of SOP documents as a clear and systematic foundation for operations (Renita & Anggarainy, 2024).

Subsequently, a Focus Group Discussion (FGD) was conducted with BUMDes officials, technical staff of BP-SPAMS, and village authorities. This group discussion aimed to identify operational challenges and agree on the most relevant and practical work procedures for all parties. According to Istiqomah (2023), the FGD method is highly beneficial for SOP development as it facilitates the exchange of experiences and clarification of work responsibilities among field implementers.

The output of the FGD is the drafting of SOPs that include procedures for clean water management, from pump operations, water distribution, payment recording, to monthly reporting. This draft is prepared in accordance with the principles of good SOPs, namely: specific, measurable, applicable, and flexible for periodic evaluation (Dubinsky & Henry, 2022). The development of the SOP also considers the existing organizational structure and is divided into technical operational and administrative sections.

The next step is to conduct internal socialization and training for all BP-SPAMS members, both technical and financial. The training focuses on understanding the contents of the SOP and simulating the implementation of tasks according to the agreed workflow. This activity is important because, according to Ajusta and Addin (2018), SOP implementation often fails not because the content is inappropriate, but because of a lack of training and active involvement from the implementers.

As part of strengthening administrative capacity, the service team also conducted training on digital-based financial record-keeping. This training covered the use of simple spreadsheets, formats for cash inflow and outflow reports, and how to create monthly summaries. According to Budijati et al. (2023), the use of simple digital record-keeping greatly assists MSMEs and village business units in improving accuracy and efficiency.

Technical assistance was provided over two weeks using on-the-job training methods, which involved directly accompanying BP-SPAMS staff as they carried out daily operations while implementing SOPs and recording digital transactions. This assistance aimed to ensure that system changes were actually implemented and not merely formal documents. This activity was based on the experiential learning model as described by Kolb (1984).

The entire implementation process was documented in the form of daily activity reports and evaluation sheets. The evaluation was conducted by comparing operational practices before and after the implementation of SOPs. The aspects evaluated included task clarity, service timeliness, and transaction recording consistency. Initial evaluation results showed improvements in operational consistency and community satisfaction with clean water services.

This activity also involved village officials in order to encourage the integration of SOPs into official BUMDes documents. Thus, SOPs are not only informal work guidelines but also have administrative power and can be used as a basis for public accountability. This is in line with the recommendations of the Minister of Villages, Development of Disadvantaged Regions, and Transmigration Regulation No. 4 of 2015 concerning the Establishment and Management of BUMDes, which encourages the professionalization of village business units.

During the implementation of the activity, visual documentation in the form of photos, discussion recordings, and digital archives was also carried out. This documentation is an important part of the reflection process and reporting of activity results to the university and village partners. According to Widyarini et al. (2020), good documentation also serves as a monitoring tool and a basis for the development of future programs.

Participatory and locally-oriented implementation methods have proven effective in building community trust and ownership of activity outcomes. This strengthens the long-term impact of community service programs and opens up opportunities for further collaboration between universities and partner villages. This experience shows that community service is not merely a transfer of knowledge, but also a shared learning process between academics and the community.

Thus, the implementation method used in this activity comprehensively combines academic approaches and local wisdom. This approach is not only relevant to the BP-SPAMS context in Sukalaksana, but can also be replicated to strengthen other village business units in various regions of Indonesia.

RESULTS AND DISCUSSION

The community service program in Sukalaksana Village by students from Padjadjaran University successfully implemented a series of programs focused on improving the operational management of the BP-SPAMS business unit through the development of Standard Operating Procedures (SOPs) and training in digital financial record-keeping. The program began with orientation by field supervisors, followed by field observations and discussions with the BUMDes management.

The preparation phase resulted in mapping the primary needs of the partner, namely the necessity of SOPs for daily operational activities, particularly those related to clean water distribution, customer complaint management, and financial recording and disbursement. Previously, these activities were conducted without procedural documentation, often leading to inconsistencies and confusion among team members.

The SOP development process began on July 10, 2024, and was carried out collaboratively with the head and staff of BP-SPAMS. Intensive discussions resulted in eight main SOP points, including water distribution flow, staff work schedules, and financial

reporting mechanisms to BUMDes. The SOPs were reviewed and revised based on input from the head of BUMDes on July 20, 2024.



Figure 1. Discussion with the Head of BP-SPAMS

Finally, it was agreed that there would be 8 SOPs to be used by BP-SPAMS, namely:

1. Registration SOP: Regulating the procedures and methods for consumers to register their household water connections
2. Household Water Connection Installation Survey SOP: Establishing the steps to be taken in conducting a site survey before installing water connections to ensure that the installation is done correctly and in accordance with standards.
3. Residential Water Supply Installation SOP: Provides technical guidance for the installation team to ensure the installation process runs smoothly and meets the specified technical specifications.
4. Maintenance SOP: Establishes procedures for routine maintenance and repairs of water supply systems to ensure the system operates properly and minimizes the risk of damage.
5. Water Meter Inspection SOP: Provides guidance to the BP-SPAMS Team in conducting regular and accurate customer water meter inspections and managing administration properly.
6. Payment SOP: Regulates the procedures that must be followed in conducting payment transactions, both from the customer and employee sides.
7. Recording SOP: Establishes the recording methods that must be used for every transaction and operational activity, so that the data produced is accurate and easily accessible.
8. Deposit to BUMDes SOP: Regulates the procedure for depositing funds from BP-SPAMS to BUMDes, ensuring that all income is recorded and deposited correctly.

The implementation of SOPs not only provides written guidelines but also encourages professionalism among BP-SPAMS officers. Employees better understand their respective

roles and responsibilities and can access clearly documented workflows. According to Ajasta and Addin (2018), good SOPs can improve efficiency and minimize operational errors.

In addition to developing SOPs, the service team also conducted training on financial record-keeping digitalization using simple software. This training provided an understanding of cash transaction input, the creation of cash inflow and outflow reports, and the internal audit process. This step was a response to the previous manual record-keeping system, which was prone to data loss and input errors.

The training results showed an improvement in the technical capabilities of BP-SPAMS cashiers in operating the recording system. The implementation of digital recording facilitates monitoring cash flow and accelerates the reporting process to BUMDes. Similar findings were reported in Satyanovi et al.'s (2022) study at KKT Sari Rejeki, which demonstrated that digitalization enhances financial transparency and efficiency.

The SOP socialization was conducted on July 25, 2024, to stakeholders, including the head of BP-SPAMS, cashiers, checkers, and community representatives. This activity aimed to build collective understanding and commitment to SOP implementation. This step is important considering that, according to Widyarini et al. (2020), the success of SOP implementation depends heavily on the understanding and support of all parties involved.



Figure 2. Socialization of BP-SPAMS SOPs

Follow-up activities in the form of initial monitoring showed that most staff had begun to implement SOPs in their daily activities. Reporting became more routine, customer complaints were documented, and water distribution times could be better predicted. The evaluation was conducted through interviews and direct observation during the last week of the community service program.

The direct benefits of this activity are felt by the community in the form of more regular clean water services and quick responses to complaints. This is reinforced by the statement from the Chairman of BP-SPAMS during the activity reflection session, who noted that “the implementation of SOPs has greatly helped us work in a more focused and transparent manner.”

The implementation of SOPs also opens up opportunities for replication to other BUMDes-owned business units such as the UMKM Center and Saung Ciburial Tourism Village. This demonstrates that the success of this community service initiative can be multifunctional and transferable to other sectors within village governance.

Overall, this activity demonstrates that simple interventions such as SOPs and digital training can have a tangible impact on improving the efficiency and professionalism of village

public services. As concluded by Dubinsky & Henry (2022), SOPs designed according to the local context are an important pillar in strengthening community-based institutions.

CONCLUSION

The community service program focused on developing Standard Operating Procedures (SOPs) and digitizing record-keeping at the BP-SPAMS in Sukalaksana Village has had a significant impact on improving the management of clean water services at the village level. Through a participatory approach, the implementation team successfully mapped out the main workflow of BP-SPAMS, developed eight SOP documents covering all operational processes, and facilitated training and socialization for all stakeholders.

The presence of SOPs has proven to enhance operational efficiency, clarify task distribution, and promote professionalism among BP-SPAMS staff in providing services to the community. Moreover, SOPs have strengthened transparency and accountability in water service management, particularly through the integration of a digital-based financial recording system. Digital recording enables more accurate, faster, and easily traceable financial reporting, thereby minimizing the risk of data loss or recording errors.

In addition to administrative and technical improvements, this program has also successfully encouraged active community involvement in the public service policy-making process. Community participation in SOP discussions reflects a growing collective awareness of the importance of independent and sustainable resource management. This is in line with the spirit of empowerment and inclusive village development in accordance with the principle of “no one left behind” in the SDGs.

The success of this program implies that the approach of strengthening institutional capacity through SOPs and digitalization can be replicated in other business units under the umbrella of BUMDes, as well as applied in other villages with similar characteristics. For the sustainability of program outcomes, ongoing support from the village government and multi-stakeholder collaboration, including academics and civil society, is required.

Thus, the development of SOPs and digitalization of BP-SPAMS in Sukalaksana Village is not only a technical intervention but also a model of good practice in strengthening community-based clean water management that is empowered, self-reliant, and oriented toward sustainable development.

REFERENCES

Book:

Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs: Prentice Hall.

Journal Article:

Ajusta, A., & Addin, M. (2018). *Standard Operating Procedures in Organizations*. Yogyakarta: Deepublish.

Budijati, S. M., Hermining Astuti, F., & Jatiningrum, W. S. (2023). Development of SOPs as a Guide for Raw Material Procurement in the Kunir Jalak Business Unit. *Community Development Journal*, 4(2), 5342–5347.

Chambers, R. (1994). Participatory Rural Appraisal (PRA): Analysis of Experience. *World Development*, 22(9), 1253–1268.

Dubinsky, A., & Henry, M. (2022). Document Control and SOP Implementation in Small Organizations. *Journal of Process Management*, 8(1), 45–56.

Istiqomah, I. (2023). Development of MSMEs Through Standard Operational Procedure Training in the Karang Mitra Usaha Program. *Jurnal Masyarakat Madani Indonesia*, 2(4), 436–441. <https://doi.org/10.59025/js.v2i4>

Nugroho, A., & Sulastri, E. (2020). Challenges in Community-Based Drinking Water Management in Indonesia. *Journal of Civil and Environmental Engineering*, 15(1), 45–56.

Renita Cahyani, & Anggarainy Eka S. B. (2024). Designing SOPs at Puput Pastel SMEs Using the Focus Group Discussion (FGD) Method. *Journal of Industrial Engineering*, 1(1), 1–8.

Satyanovi, V. A., Hanggana, S., Hananto, S. T., Murni, S., Syafiqurrahman, M., & Hapsari, A. A. (2022). Assistance in Developing SOPs for the Savings and Loan Unit of the Sari Rejeki Karanganyar Farmers' Cooperative. *Kumawula: Journal of Community Service*, 5(1), 133–140. <https://doi.org/10.24198/kumawula.v5i1.36092>

Setiati, A. (2023). Local Wisdom-Based Economy: A Study of Sukalaksana Tourism Village in Garut Regency. *Jurnal RELASI*, 5(2), 112–121.

Susanti, R., Firmansyah, D., & Nuraini, L. (2021). The Effectiveness of SOPs in Strengthening Village Institutions. *Journal of Public Administration*, 12(2), 123–135.

Widyarini, T., Yuwono, D., & Nimatul, A. (2020). Standard Operating Procedures (SOP) as Policy Documents for Strengthening Cooperative Performance. *Journal of Accounting and Islamic Economics*, 3(1), 20–30.

Regulations:

Implementation of community service activities in Sukalaksa Village Regulation of the Minister of Home Affairs of the Republic of Indonesia Number 114 of 2014 concerning Guidelines for Village Development.