

The Role of Village-Owned Enterprises (BUMDes) in the Development of Integrated Waste Management Sites (TPST) in Kedungturi Village, Taman, Sidoarjo

Masfufah Hanim¹, Hendra Sukmana²

^{1,2}Muhammadiyah University of Sidoarjo, Indonesia



DOI: <https://doi.org/10.61796/icossh.v2i2.368>



Sections Info

Article history:

Submitted: June 14, 2025

Final Revised: July 24, 2025

Accepted: August 10, 2025

Published: September 27, 2025

Keywords:

Village-Owned Enterprises

(BUMDes)

Integrated Waste Management
Site (TPST)

Waste management

Role theory

PSM

ABSTRACT

Objective: This study aims to describe and analyze the role of Village-Owned Enterprises (BUMDes) in the development of Integrated Waste Management Sites (TPST) in Kedungturi Village, Taman District, Sidoarjo Regency. **Method:** The use is qualitative descriptive research, with data collection through interviews, observations, and documentation, as well as data analysis using the Miles and Huberman model.

Results: show that BUMDes have successfully carried out their role in waste management through four indicators from the role theory of Biddle & Thomas in Sarwono: First, the role of Hope, which reflects the expectations of the community. Second, the role of norms, which shape managers' behavior. Third, the form of behavior seen in real actions in management. And finally, Evaluation & Sanctions, which strengthens management accountability. **Novelty:** this research lies in the application of role theory in the context of environmental management at the village level, as well as providing insight into how BUMDes can function as agents of change in effective and efficient waste management.

INTRODUCTION

One of the environmental issues that many people pay attention to is the problem of waste. Waste is solid or semi-solid waste from human, animal or plant activities or urban activities[1]. The waste problem will never end, not only in Indonesia but all over the world. The problem of waste is becoming an increasingly urgent issue, Many efforts have been made to overcome this problem, as well as for local governments where the problem of waste is a big problem. The problem of waste is becoming an increasingly urgent issue, Many efforts have been made to overcome this problem, as well as for local governments where the problem of waste is a big problem. The current increase in environmental pollution is triggered by various factors, one of which is the growth of the human population which causes an increase in the volume of waste produced. The lack of public awareness of environmental cleanliness still has not reached the desired expectations[2]. Based on data from the Central Statistics Agency, Indonesia is ranked fourth in the world with a population of 283.49 million people as of January 2025. The more population, the greater the waste produced. This is due to the increasing consumption of goods and services, urbanization that causes the concentration of waste in urban areas, and changes in people's lifestyles that tend to be consumptive.

Realizing the increasingly urgent waste problem, local governments play an important role in implementing sustainable solutions. The role of Village-Owned Enterprises (BUMDes) is a strategic step, BUMDes can run business units that are in accordance with the potential and needs of the village in accordance with Government Regulation of the Republic of Indonesia Number 11 of 2021 concerning Village-Owned

Enterprises (BUMDes) to regulate the establishment, management and development of BUMDes at the village level, this Regulation provides a clear legal basis for BUMDes to be able to operate effectively and contribute to village economic development. In line with the enactment of Law Number 18 of 2008 concerning Waste Management, the government also encourages BUMDes to manage business units that focus on environmental management, one of which is through the establishment of an Integrated Waste Management Site (TPST)[3]. The TPST concept focuses on waste management in each region with the aim of minimizing the volume of waste, managing it into products of economic value, and maintaining environmental sustainability. As expressed by Neolaka argues that waste management is an effort to create beauty by processing waste that is carried out in harmony or the people and managers or the government together[4]. This aims to reduce the practice of Final Disposal Sites (TPA). TPST is considered effective in managing waste from an early age and on a small scale in each region through several stages of the process.

According to information obtained from the National Waste Management Information System (SIPSN) managed by the Ministry of Environment and Forestry (KLHK) of the Republic of Indonesia, the total waste pile in Indonesia in 2021 reached 29.8 million tons. A study on waste management in Indonesia shows that the traditional method of "kumpul-angkut-dispote" is still the main one[5]. This reflects the lack of implementation of the circular economy concept that emphasizes the 3R (Reduce, Reuse, Recycle) principle that has been regulated by the Government in Law Number 18 of 2008 Article 20 Paragraph (1) related to household waste management. Community participation in the selection of waste from the source is still low, so programs such as waste banks need to be expanded. The paradigm of waste management becomes a paradigmatic solution that changes the paradigm of 'throwing' to 'managing' (Bambang M.D). This paradigm is a new paradigm that replaces the old system of waste management. Waste is not only disposed of but managed according to its type and the results of waste management can be sold. [6]. Today, more than 90% of regions in Indonesia still implement the open disposal method, where waste is dumped directly into landfills without any treatment. Waste generation in landfills that are not used will accumulate over time and require new land, while the rate of population growth increases and land is increasingly limited. The growing volume of waste, the accumulation of waste in landfills, and the limited land for landfills are problems that must be solved. The accumulation of waste in landfills is caused by waste management systems that do not meet standards[7]. Efforts to sort and manage waste from the source are still very limited, so that waste only accumulates in landfills. Overall, waste management in Indonesia faces major challenges, requiring a lot of collaboration from the government, society, and the private sector to achieve a sustainable system[8].

BUMDes are expected to develop TPST as a business unit that not only plays a role in waste management, but also creates new economic opportunities through recycling and waste utilization[9]. This is expected to support the vision of a cleaner, healthier and economically independent village development. The management of TPST by BUMDes is one of the alternatives to overcome the waste problem in the village independently and sustainably. In addition to contributing to reducing the amount of waste thrown into

landfills, TPST management also plays a role in increasing public awareness of the importance of effective and correct waste management. In line with the efforts of the Sidoarjo Regency government in building and developing village potential through BUMDes, BUMDes Surya Sejahtera located in Kedungturi Village, Taman District, Sidoarjo Regency, East Java Province began to be established in 2021, with a total of 1,850 Family Cards served by TPST for waste processing. BUMDes Surya Sejahtera in the development of TPST takes over the management of TPST with the aim of increasing the efficiency and effectiveness of waste management. The local government encourages BUMDes in the management of TPST by providing technical assistance, assistance with waste management tools, and incentives for villages that successfully manage waste independently, BUMDes have an important role in supporting TPST management by utilizing local resources and involving the community, BUMDes can provide the necessary capital and management for TPST operations, as well as increasing public awareness about the importance of waste management through Socialization [10]. In addition, BUMDes can also create jobs and provide economic value from waste management, thereby contributing to the welfare of the Kedungturi village community as a whole. This program is managed through a series of stages, starting from collecting waste from home sources and residents' markets, which are then brought to the TPST to be selected based on their type. In the next stage of waste management, the waste that can be processed will be recycled into new raw materials, and the waste that cannot be further processed will be sent to the landfill. The following are the results of the recapitulation of the volume of landfill waste after being sorted at the TPST in 2024.

Table 1. Recapitulation of landfill waste volume after sorting at TPST in 2024

Yes	Moon	Volume garbage	Volume of waste disposed of in landfills	Volume of waste managed by TPST
1.	January	192,350 kg	87.350 kg	105,000 kg
2.	February	197,450 kg	93,450 kg	104,000 kg
3.	March	222,720 kg	122,720 kg	1 Ton
4.	April	900,100 kg	100.880 kg	900,000 kg
5.	May	199.860 kg	93,860 kg	106,000 kg
6.	June	214,540 kg	98,540 kg	116,000 kg
7.	July	993,480 kg	103,480 kg	890,000 kg
8.	August	207.500 kg	97,500 kg	110,000 kg
9.	September	979.180 kg	89.180 kg	890,000 kg
10.	October	100,932 kg	86.320 kg	105,000 kg
11.	November	100.106 kg	106.60 kg	100,000 kg
12.	December	810.920 kg	109.20 kg	800,000 kg

Source : Processed from Kedungturi Village BUMDes (2025)

It can be seen from the data above that 10% of the waste in Kedungturi Minimizing the accumulation of waste in landfills, waste management in landfills not only serves to reduce the amount of waste brought to landfills, but also provides more value than existing waste. This process not only helps to reduce the load on landfills, but also minimizes the negative impacts of waste on the environment, such as water and soil

pollution. The increase in the amount of waste is a serious environmental problem along with population growth, while landfill areas are increasingly limited. This situation is exacerbated when waste management in landfills is not carried out effectively, efficiently, and environmentally friendly, and there is a lack of good cooperation. If waste management in landfills does not go well, this can cause social and environmental problems that are detrimental to the community.

This can be seen from several previous studies that found the fact that the implementation of the BUMDes program has not gone well. According to (Elma Lazuardiah, et al) with the title "The Role of BUMDes (Village-Owned Enterprises) in Increasing the Potential and Welfare of Village Communities (Study of BUMDes Sumber Sejahtera, Pujonkidul Village, Pujon District, Malang Regency, East Java)" this researcher raised issues related to the low active participation of the community in the development of tourist villages. This is due to several factors, such as lack of motivation, inadequate socialization, and difficulties in managing special product licensing. In addition, the number of Human Resources (HR) who manage BUMDes is also still limited in terms of competence[11]. There is also a previous study entitled "The Role of Agriculture-Based BUMDes (Village-Owned Enterprises) in Efforts to Improve Community Welfare" (Zunaidah, Askafi, and Daironi) which shows that BUMDes play an important role in developing Micro, Small, and Medium Enterprises (MSMEs) through strengthening capital, market development, and creating relevant jobs with the aim of identifying BUMDes strategies in increasing the economic participation of rural communities [12].

The results of observations in the field show that there are a number of problems related to the construction of the Integrated Waste Management Site (TPST) in Kedungturi Village, Taman. [13]Among them are facing dynamics such as the lack of human resources in the management of TPST, lack of participation from the community, and economic sustainability challenges. Thus, this study has a crucial role to assess the shortcomings in the research, with the aim of analyzing and understanding how the real role of BUMDes in the development of TPST in Kedungturi Village, Taman District, Sidoarjo Regency.

Based on the research topic that has been mentioned, the author wants to explore the findings of the research entitled "The Role of BUMDes in the Development of TPST in Kedungturi Village, Taman, Sidoarjo" using Role Theory; Biddle & Thomas in Sarwono develop this theory by emphasizing that roles can be understood as a set of norms that govern and limit the actions expected of individuals occupying a particular position. In this context, BUMDes are positioned as social actors who have a strategic role in village development, including the development of TPST. [14]This role can include economic, social, and environmental aspects that are carried out in accordance with the expectations of the community, village government, and other parties through several indicators, including: 1) Role Expectation, which is the expectations used by a person related to a behavior that is commensurate with the reality shown by individuals who have a certain role. 2) Role Norms, which are one of the rules that are the basis for the implementation of duties and obligations. 3) Role Performance, which is a role that is manifested in a person's behavior in displaying his form of behavior, this form is manifested through activities in carrying out his duties, principles, and functions. 4) Role Evaluation & Role

Sanctions, the evaluation in question is the provision of positive messages and impressions as well as negative impressions based on the expectations of many people for the role performed.

RESEARCH METHOD

This research is a type of qualitative descriptive research with the main focus of the role of BUMDes in the development of the Integrated Waste Management Site (TPST) in Kedungturi Village. Qualitative descriptive is a research method used with the aim of studying the state of an object or phenomenon by providing a descriptive explanation in accordance with the facts that occur in the field clearly and the author is used as the main instrument in data collection (Saleh Sirajuddin) According to Sugioyono, the descriptive method is an approach used to analyze data by describing or describing the data that has been collected without trying to draw a general conclusion[15]. This approach is applied to analyze issues related to the role of BUMDes in the development of TPST in Kedungturi Village (Warshawsky & Paul). The place chosen for this research is Kedungturi Village which is located in Taman District, Sidoarjo Regency, because there are indications that there are problems that need to be researched.

The focus of the research uses the concept (Role Theory) as an analysis knife related to the role of BUMDes, which consists of 4 indicators, namely 1) Role Expectations. 2) Role Norms. 3) Role Performance. 4) Role Evaluation & Role Sanctions. The informant collection method used in this study is purposive sampling, which is a source selection technique that aims to obtain information relevant to the research theme. This is done because the resource person is considered to have the necessary knowledge. (Sugiyono, 2011) explained that purposive sampling is a method of determining samples based on certain considerations. In this study, the informants consisted of the Chairman of TPST, Treasurer of TPST, Chairman of BUMDes, Treasurer of BUMDes, Secretary of BUMDes, and Kedungturi Residents. The data obtained includes primary and secondary data. While data collection is carried out through observation, interviews, and documentation (Unique), the data analysis technique uses a model developed by Miles Huberman which includes the stages of data collection, data reduction, data presentation, and finally conclusion making. Data collection is an information collection process carried out in the field. Data reduction is done by selecting the information that has been obtained during collection. Furthermore, data presentation is the process of compiling information that has been processed to reach conclusions, which is the result of data analysis based on a predetermined problem (Williamson et al).

RESULTS AND DISCUSSION

The word "role" comes from the term "role", which refers to a position held by a person or an action taken in a situation. According to (Hanafie) roles include actions taken by individuals in carrying out their rights and obligations in accordance with the position held. This role is considered important because it influences individual behavior. Then According to Berry, cited (Wirutomo) work-related roles that direct a person to carry out responsibilities according to the role he plays, The role itself is defined as a set of expectations given to a person who occupies a certain social position. The

determination of this role is influenced by the norms that apply in society, which means that we are required to fulfill society in the context of work, family, and other roles.

To find out the extent of the role or role carried out by a person who occupies a certain position or position, it can be seen from the behavior and actions carried out while holding the position or position. According to Biddle & Thomas in Sarwono, behavioral indicators in relation to roles are as follows:

The Role of Hope (The Role of Hope)

Sarwono "Expectations about appropriate roles, which must be shown by someone who has a certain role". The Expected Role Indicator is an assessment that refers to the expectations or expectations held by the community, village governments, and other parties towards the role that must be played by BUMDes in the development of TPST. This hope is a view formed based on the needs and goals that the community wants to achieve related to waste management. BUMDes is expected to be a motor for community mobilization in effective and efficient waste management, and be able to create a positive impact on the environment and the village economy. The following is information from an interview with the Secretary of BUMDes in Kedungturi, Taman.

"The community wants BUMDes to be a leader in the arrangement and management of waste in the village, with the main goal of reducing the amount of waste thrown into landfills. Not only that, the village government also has great hopes that BUMDes can innovate in waste management, for example by developing recycled products or utilizing waste for renewable energy." (Accessed April 20, 2025).

This hope shows that the role of BUMDes is not only limited as the implementer of waste management techniques, but also as an agent of social and economic change at the village level. In this case, BUMDes are required to be able to develop a comprehensive management strategy, starting from public education, the provision of facilities and infrastructure, to the creation of added value from waste.

The addition was from the Secretary of BUMDes Kedungturi.

"We also hope that the Kedungturi TPST can operate optimally even with the problem of instability in the price of waste that has been sorted at this time..." (April 20, 2025 interview).

The existing expectations in the form of community participation in the TPST program have been well implemented through various initiatives and activities involving villagers. The community has actively participated in contributing to the waste collection, distribution, and management process, demonstrating their awareness and commitment to the development of TPST. In addition, BUMDes has held training and socialization to increase public knowledge about the importance of correct waste management, which was then responded positively by residents.

Table 2. The following is a recapitulation of the socialization activities held by BUMDes with the residents of Kedungturi Village in February 2025:

Yes	Activity Name	Activity Dates	Attendance
1.	Socialization of waste sorting education	February 1, 2025	25 Inhabitants
2.	Socialization of waste management education	March 15, 2025	30 Inhabitants

3. Socialization of the level of waste collection	30 April 2025	28 Inhabitants
---	---------------	----------------

Source : Processed from Kedungturi Village BUMDes (2025)

The above factors are associated with Role Theory; Biddle & Thomas in Sarwono. That hopes or expectations in Kedungturi Village have played an ideal role that must be played by BUMDes and the community in the management of the Kedungturi TPST. In accordance with the reality on the ground, there are expectations that affect the level of community participation, the community and BUMDes will involve each other to answer their expectations. So that it is in accordance with Role Theory; Biddle & Thomas in Sarwono on the Theory of Hope has been applied, so that waste management can be carried out in a sustainable manner, and also to realize a clean, healthy and environmentally independent village.

Role Norms

The Norma Indicator explains how the expectations of the community and village officials form a pattern of behavior in carrying out their roles, especially in the context of TPST management by BUMDes. According to the view (Secord & Backman) Norms can be understood as a form of "expectation" that is divided into two categories. First, predictive expectations, namely public trust in the behavior that is likely to be carried out by BUMDes managers. (b) Normative expectations, namely the social needs or obligations that accompany the role of BUMDes managers in environmental and social responsibility. Biddle & Thomas further distinguish normative expectations; (a) Veiled expectations, i.e. expectations that are not explicitly expressed, but remain alive in the social values of society. For example, the community hopes that BUMDes managers will maintain environmental cleanliness, even though it has never been conveyed directly. (b) Open-ended expectations, i.e. expectations expressed or expressed directly. For example, the request of village officials for BUMDes to be active in waste management through official and transparent work programs. This expectation is considered a form of clear role demand. The following information is from an interview with the Head of BUMDes Kedungturi, Taman.

"We openly convey to BUMDes managers that TPST management is carried out properly and regularly. Residents also hope that this TPST can be a solution to the problem of waste that is increasingly piling up. (Interview on April 20, 2025).

Then the statement was reaffirmed as follows.

"We feel responsible because there are indeed expectations from the community and villages. Although not everything is conveyed directly, we know that the community wants a clean environment, expectations like this are the driving force for us as BUMDes managers. (Interview April 20, 2025).

The history comes from one of the leaders of the partner community at TPST in Kedungturi, Taman.

"I personally have never conveyed it directly, but I think all residents want the TPST to run smoothly. If possible, not only manage, but also develop TPST in Kedungturi... (Interview April 20, 2025).

Table 3. The following is a recapitulation of the Types, Forms, and Sources of Expectations:

Yes	Types of Expectations	Shape Hope	Source Hope	Effects on TPST
1.	Predictive Expectations	Not Explicit	General Public	Managers feel judged by their actions
2.	Normative Expectations	Explicit/Open	Village Apparatus	Become a reference for policies and operational schedules
3.	Normative Expectations	Hidden/Implied	Public Figures, Citizens	Increase managers' sense of social responsibility

Source : processed by researchers 2025

The above factors when associated with the Role Theory from Biddle & Thomas in Sarwono show that the expectations or expectations that arise from the community and village apparatus have played an ideal role that must be carried out by each party, both by BUMDes as TPST managers and by the community as service users and environmental stakeholders. In accordance with the Theory of Expectations in Role Theory, when a party actively responds to social expectations, mutual participation will be formed. This can be seen from the realization in Kedungturi, where the level of community participation has increased along with the increasingly clear role played by BUMDes. Thus, the expectations of the community and village apparatus become a normative force that encourages BUMDes to carry out their social and environmental roles. This process proves that Biddle & Thomas' Role Theory has been realized, namely that clear social expectations will increase engagement and role performance. This is an important foundation in realizing sustainable TPST management, as well as creating a clean, healthy, and environmentally independent village.

Role Performance

The behavior seen in a role is generated by the individual who performs that role. In contrast to the norm of expectation, this behavior is a real manifestation. In addition, these real behaviors also vary from one individual to another. Role Performance refers to concrete actions or real behaviors shown by actors in performing their roles. In the context of the development of TPST in Kedungturi Village, BUMDes not only carries out their role based on community norms or expectations, but has also shown real behavior that can be observed directly in daily operations. The following is information from an interview with the Secretary of BUMDes in Kedungturi Village.

"We from BUMDes went directly to the establishment and monitoring of TPST in Kedungturi, and carried out some coordination with RT/RW to educate residents regarding socialization and conflict resolution. Although it is not optimal, we have tried to carry out this role in real life in the field" (interview April 20, 2025).

The role of BUMDes in the development of TPST in Kedungturi Village is clearly seen through their active involvement in various operational aspects and institutional strengthening of waste management. Not only stopping at the planning level, BUMDes shows real behavior by regularly coordinating with TPST managers, supporting socialization activities, and providing real assistance in the form of budget allocation for revitalization, one of which is the roof at TPST which is an important foundation in maintaining the sustainability of TPST. The following is the result of information from an interview with the Treasurer of BUMDes in Kedungturi.

"One of the main problems at the TPST at that time was the condition of the damaged roof. When it rains, water enters the management area and greatly interferes with the activities of the officers. Seeing these conditions, we from BUMDes decided to allocate funds to repair the roof of the TPST. The revitalization of this roof is a priority so that the waste management process can run more safely and comfortably, especially during the rainy season..." (interview April 21, 2025).



Figure 1. Condition of the roof of the Kedungturi TPST after revitalization :

Source: <https://maps.app.goo.gl/s5jMrZP8PvVaCHfZ7>

Chairman of TPST RT partners in Kedungturi Village.

"I saw firsthand when the roof repair was carried out, indeed previously the condition was leaking and endangering the officers. However, since BUMDes intervened to repair roofs, it is now safer and cleaner. Residents also believe that there is more to be stored in the TPST." (interview April 21, 2025).

The above factors are associated with Role Theory; Biddle & Thomas in Sarwono. BUMDes actually provides actions such as physical revitalization of TPST and participates in bridging the needs of the needed infrastructure, Thus BUMDes Kedungturi shows that the ideal role has run in line with actual behavior in the field, which supports the sustainability of the TPST program so that it is in accordance with the Role Theory; Biddle & Thomas in Sarwono on the Form of Perpetrators.

Role Evaluation & Role Sanctions

In this indicator, Biddle & Thomas states that the evaluation and imposition of sanctions is based on public expectations of existing norms. Based on these norms, individuals give positive or negative judgments to a behavior (Sarwono) Meanwhile, sanctions can be understood as an individual's attempt to maintain positive values or

change roles that were initially considered negative to positive. According to Biddle & Thomas, these judgments and sanctions can come from others or from oneself (in Sarwono).

In the context of TPST management in Kedungturi, the norms formed in the community play an important role in assessing whether the behavior of BUMDes, TPST Managers and the community is in accordance with social expectations or not. The assessment of the role carried out arises through real social responses in the form of support, participation, and criticism. The results of observations in the field, When BUMDes actively support the revitalization of TPST facilities and are involved in monitoring monthly reporting, the community gives a positive impression in the form of trust and support for the program. On the other hand, when there is a delay in transporting waste or a lack of communication between managers and residents, the community shows negative judgments, through complaints or decreased participation. The following are the results of the interview with the Chairman of TPST in Kedungturi Village, Taman.

"We often receive input from residents, especially if there is a late transportation schedule or if the garbage accumulates for too long. If so, we immediately coordinate with the officers and report to the BUMDes Manager and TPST Manager. If we are slow to respond, residents can protest, but if we respond quickly, usually residents participate in the cleanup." (interview April 21, 2025).

Management of BUMDes in Kedungturi Village, Park.

"We see that the community gives trust if the management goes well. But if there are shortcomings, such as untimely reports or unrepaired facilities, they will also reprimand. It was an alarm for us to fix the system. Even from our own side, we also implement routine evaluations for TPST managers..." (interview April 21, 2025)

Table 4. The following is a recapitulation of the types of assessments/sanctions in Kedungturi, Park.

No	Type of Assessment/Sanction	Forms of Response/Impact	Surveillance Sources
1.	Positive Rating	Community support for recycling programs	Community
2.	Negative Rating	Residents' complaints about improper transportation schedules	Community
3.	Direct Social Sanctions	Tegran on the RT/RW forum	Citizen
4.	Internal Sanctions	Monthly Evaluation and Improvement of Management SOPs	TPST/BUMDes Manager
5.	Role Enhancement (Response)	Procurement of training and facility upgrades	Follow-up of BUMDes

Source : processed by researchers 2025

The above factors are associated with Role Theory; Biddle & Thomas in Sarwono. Therefore, evaluation and sanctions are an important part of maintaining the

implementation of the role in accordance with public expectations. In Kedungturi Village, the evaluation process is carried out periodically by BUMDes on the performance of TPST managers, both in terms of reporting, daily operations, and services to the community.

BUMDes responded to the evaluation by providing corrective actions, such as conducting manager training, reorganizing the reporting system, and rotating officers if necessary. The sanctions are not to punish, but to encourage improvement so that roles that were previously considered less can be returned in a direction that is in accordance with societal norms and expectations.

Thus, BUMDes Kedungturi has carried out its ideal role not only in the technical management of TPST, but also in terms of enforcement, evaluation, and constructive sanctions. This is in line with Role Theory; Biddle & Thomas in Sarwono, that evaluation and sanctions function as a tool to ensure that behavior remains within the expected role corridor, so that the goal of sustainable TPST management can be achieved.

CONCLUSION

Fundamental Finding : Based on the findings of the research and data analysis, it is concluded that the research on the role of BUMDes in the development of TPST in Kedungturi Village, Taman, Sidoarjo resulted in a deep understanding of the role of BUMDes based on four indicators from the overall role theory has succeeded in carrying out its role well. **Implication :** Although there are still challenges that need to be overcome to achieve sustainable waste management, collaboration between BUMDes, the community, and the government is the key to realizing this goal. **Limitation :** There are still challenges that need to be overcome to achieve sustainable waste management. **Future Research :** Collaboration between BUMDes, the community, and the government is the key to realizing this goal, therefore future research can explore further strategies to strengthen this collaboration in the context of sustainable waste management.

REFERENCES

- [1] A. Gandhi and S. W. Teh, "The application of Bernard Tschumi's superimposition methods theory to waste management and its educational means," *Journal of Science, Technology, Urban, Design, Architecture (Stupa)*, vol. 3, no. 2, pp. 2293–2302, 2021.
- [2] T. Rahayu, M. Anissa, N. Nakita, R. D. Tobing, and B. Purba, "Student perception of the Faculty of Economics, State University of Medan on waste sorting in the campus environment," *EKOMA: Journal of Economics, Management, Accounting*, vol. 4, no. 1, pp. 219–229, 2024.
- [3] D. O. Daghu, "Community participation in waste through waste bank," Doctoral dissertation, STPMD Village Community Development College APMD, 2025.
- [4] R. F. Fitri, N. U. Ati, and S. Suyeno, "Implementation of government policy in integrated waste management innovation (case study at the Randegan final disposal site (TPA) park, Mojokerto City)," *Public Response*, vol. 13, no. 4, pp. 12–18, 2019.
- [5] S. A. Pratiwi, "Waste management and community participation in household waste in RW 06 waste reduction pilot in Kebon Kosong Village, Central Jakarta," *Geomedia Scientific and Geographic Information Magazine*, vol. 20, no. 1, pp. 42–51, 2022.
- [6] R. P. Utomo, "The role of waste banks in improving the community economy (empirical study: Waste Bank of Bener Village, Yogyakarta)," Doctoral dissertation, Islamic University of Indonesia, 2023.

- [7] B. C. Tjiptady, R. Z. Rahman, Y. F. Pradani, M. S. Sulaiman, T. Machfuroh, and A. Saepuddin, "Socialization of community economic improvement through village-owned enterprises in Poncokusumo District, Malang Regency," *I-Com: Indonesian Community Journal*, vol. 1, no. 1, pp. 35–40, 2021.
- [8] L. J. Lingga, M. Yuana, N. A. Sari, H. N. Syahida, C. Sitorus, and S. Shahron, "Waste in Indonesia: Challenges and solutions towards positive change," *INNOVATIVE: Journal of Social Science Research*, vol. 4, no. 4, pp. 12235–12247, 2024.
- [9] A. E. S. Widyastuti, "The importance of collaborative governance in waste management: A case study of zero waste-based waste management mechanisms at TPS Go-Sari and TPA BLE Banyumas," *J-CEKI: Journal of Scientific Scholars*, vol. 4, no. 3, pp. 3163–3176, 2025.
- [10] K. K. A. Sholihah and B. Hariyanto, "A study on waste management in Indonesia," *Swara Bhumi*, vol. 3, no. 3, pp. 1–9, 2020.
- [11] K. Sari and R. S. Nabella, "Local potential and development of tourism villages through village-owned enterprises (BUMDES): A study of Pujon Kidul Tourism Village, Malang Regency," in *Proc. National Seminar on Development Economics*, vol. 1, no. 2, pp. 109–114, 2021.
- [12] A. Zunaidah, E. Askafi, and A. Daroini, "The role of agriculture-based BUMDES businesses in efforts to improve community welfare," *Agribusiness Management: Journal of Agribusiness*, vol. 21, no. 1, pp. 47–57, 2021.
- [13] A. Wafa and R. Angin, "Policy formulation of the Green Banyuwangi program, in realizing sustainable waste management (study in Bunder Village, Kabat District)," *Journal of Government and Politics*, vol. 9, no. 1, pp. 1–14, 2024.
- [14] S. Yamada and R. N. Setyowati, "The role of teachers in overcoming school bullying as an effort to realize a child-friendly school at SMP Negeri 2 Wates Kediri Regency," *Journal of Civics and Moral Studies*, vol. 7, no. 1, pp. 30–43, 2022.
- [15] A. Subekti and A. Susanto, "The effect of practical ability of gasoline motor technology courses on readiness to face industrial work practices of automotive engineering education students of the University of Muhammadiyah Purworejo," *Auto Tech: Journal of Automotive Engineering Education of the University of Muhammadiyah Purworejo*, vol. 16, no. 2, pp. 86–97, 2021.

Masfufah Hanim

Muhammadiyah University of Sidoarjo, Indonesia

Email: hanimmasfufah1@gmail.com

***Hendra Sukmana (Corresponding Author)**

Muhammadiyah University of Sidoarjo, Indonesia

Email: hendra.sukmana@umsida.ac.id
