



Collaboration of Tangerang City Government in Waste Management through Waste Bank

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ABSTRACT

This study aims to examine the collaboration undertaken by the Tangerang City Government in waste management through waste banks. The waste problem in Tangerang City is evident from the annual increase in waste production. This is reflected in the significant volume of waste disposed of at the Rawa Kucing landfill in Neglasari District, which reached 494,176,281.08 tons/year in 2021. As of 2024, the volume of waste sent to the landfill has reached 412,514,564.64 tons/year (data as of September 6, 2023). The Tangerang City Government has collaborated with several waste banks in different areas to manage inorganic waste. The actors involved in this collaboration include the Tangerang City Government, represented by the Environmental Agency, which acts as the leader and initiator of the collaboration for waste management through waste banks. In accordance with Regional Regulation No. 02 of 2021, the government is obligated to establish a central waste bank as a coordinator and facilitator linking the Tangerang City Government with unit waste banks. This research adopts a qualitative method and employs the theory of Emerson and Nabatchi (2015), which posits that local governments are not the sole primary actors initiating collaboration. Furthermore, collaborative governance is understood as the process, structure, and implementation of policies involving government institutions, the private sector, and the community to meet public needs and interests. Field research revealed several challenges in collaboration, including procedural and institutional arrangements, leadership, knowledge, and resources.



INTRODUCTION

The development of waste banks in Banten Province, when compared to other provinces on the island of Java, ranks last. According to data from the Directorate General of PSLB3 of the Ministry of Environment and Forestry (KLHK) in 2021, regarding the number of waste banks in each province on Java, Banten Province ranks last with 257 waste bank units. In contrast, other provinces such as DKI Jakarta have 2,818 units, West Java 4,134 units, Central Java 3,653 units, and East Java 4,949 units (Ditjen PSLB3 KLHK, 2021). The number of waste banks in Banten Province is significantly lower compared to other provinces. Waste management should be supported by the implementation of regional government policies (Yenni Ruslinda, 2018).

In Serang City, the structuring of waste systems and the sustainability of such policies have not been optimally implemented, as evidenced by the high volume of waste generation. Low community participation is also a contributing factor to Banten Province ranking last in the number of waste bank units. Major cities in Banten Province play a crucial role in the development of waste banks. Data from the Directorate General of PSLB3 KLHK shows the distribution of waste banks in cities and regencies in Banten Province as follows: South Tangerang City with 131 waste bank units, Tangerang City with 64 units, and Serang City with 26 units. Other regencies and cities in the province have fewer than 10 waste bank units.

This situation highlights the need for Banten Province to foster the development of waste banks for waste management. Public awareness campaigns about household waste management through waste bank programs are urgently needed. A lack of public awareness remains the primary obstacle in addressing waste issues in various areas. Many people are still not conscious of their role in tackling waste problems, and even basic awareness about disposing of waste properly remains alarmingly low. This issue is particularly pronounced in Banten Province, which includes several regencies categorized as underdeveloped areas.

The waste problem in Tangerang City is evident from the annual increase in waste production. This can be seen from the significant volume of waste disposed of at the Rawa Kucing landfill in Neglasari District, which reached 494,176,281.08 tons/year in 2021. By 2022, the volume of waste sent to the landfill was 412,514,564.64 tons/year (data as of September 6, 2022), with an average of 1,650 tons per day (<https://green.tangerangkota.go.id/>). Of this waste, approximately 60–70% consists of organic waste (household waste), while the remainder is inorganic waste.



Figure 1. Reduction of Inorganic Waste through Waste Banks (Source: Green Kota Tangerang website)

In waste management, efforts should not stop at the service stage of transporting waste to the Final Processing Site (TPA). Measures must be taken to ensure that the waste reaching the TPA is entirely non-recyclable. To this end, the government needs to utilize waste to make it more functional and economically valuable. In Tangerang City, the waste reduction target was achieved in 2021, reaching 18.33%, equivalent to 90,578.09 tons/year. This figure was calculated based on the total amount of waste generation reduction, reused waste, and recycled waste compared to the total waste volume generated by Tangerang City residents, which reached 494,177.11 tons/year in 2021 (Environmental Agency, 2022).



To support the National Strategic Project (PSN) in the form of Waste-to-Energy (WTE) facilities, a higher percentage of waste management in Tangerang City is needed. Involving multiple stakeholders in waste management is expected to establish a solid foundation for WTE implementation. Collaboration between the government and various stakeholders is essential to achieve the objectives of waste banks. In such collaborations, each stakeholder has specific roles and involvement to achieve shared goals (Asropi, 2022).

PREVIOUS RESEARCH

Previous research serves as a reference in conducting studies, enriching the theories used to examine the subject under investigation. These studies have discussed the collaborative processes, the theories applied, and the dimensions explored in greater depth. They provide an overview of the collaborative processes that have been implemented.

Research by Maya Dayana (2021) on *Stakeholder Collaboration in Household Waste Management in Kampar Subdistrict, Kampar Regency* concluded that there was no collaboration in waste management in Kampar Regency. Waste management was limited to waste collection. The study employed a qualitative method and utilized Ansell and Gash's (2008) theory to explain the collaboration process between the government and waste management (Dayana, 2021).

Another study focusing on government collaboration in waste management was conducted by Andi Nur Qalby (2018), titled *Collaborative Governance in Waste Management in Paropo Subdistrict, Panakukang District, Makassar City (Central Waste Bank)*. The research identified factors hindering collaboration, such as a lack of trust among actors in the collaboration process and the unavailability of transparent information accessible to all stakeholders involved. The study applied qualitative methods and used Ansell and Gash's (2008) framework (Qalby, 2018).

A further study, conducted by A. Nur Chofifah (2022), examined government collaboration in waste management in Bone Regency, South Sulawesi Province. The results indicated that collaboration in Bone Regency had been effective due to the involvement of Community Self-Help Groups (KSM) and multiple stakeholders. However, the study also highlighted incomplete implementation of waste management, as private sector actors collaborating with the government were limited to waste transportation.

Another example is a study by Furqoni, I., Rosyadi, S., & Isna, A. (2019) titled *Collaborative Governance in Corporate Social Responsibility Forum in Banyumas Regency*. This research showed that the presence of multi-stakeholders led to diverse activity outputs. The collaborative approach bridged processes between public and private sectors, where various interests and needs were addressed through dialogue and collaborative processes (Furqoni, 2019).

In terms of international studies, one example is research by Wang, H., Xiong, W., Yang, L., Zhu, D., and Cheng, Z. (2020). Their study, *How Does Public-Private Collaboration Reinvent? A Comparative Analysis of Urban Bicycle Sharing Policy Diffusion in China*, explored government collaboration in public services with private entities. The partnership yielded positive outcomes, enabling the achievement of collaboration objectives (Wang, 2020).

THEORY REVIEW

The presence of Collaborative Governance as a concept of government collaboration is a crucial area of study within the field of public administration. The diversity of developments, situations, and changes experienced by governments demands the implementation of a concept that accommodates and unites multiple stakeholders engaged in cooperation or collaboration in governance.

Ansell and Gash explain that the concept of collaborative governance emerged as a response to the failures of previous governance concepts. One example of such failures is the ineffective implementation of programs and the emergence of political interests within policies due to the significant influence of a single actor during the policymaking process. This highlights the necessity for connections among stakeholders, whether individuals or groups, to address problems by seeking solutions, especially in conditions of limited resources.

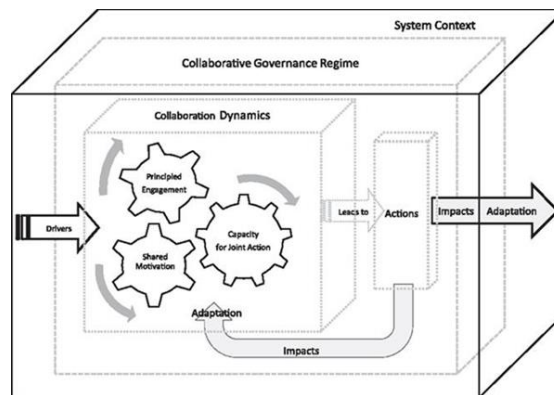


Figure 2. Emerson and Nabatchi's Collaboration Theory

Emerson and Nabatchi provide a more detailed explanation of collaborative governance, identifying two primary factors that drive the urgent need for governments to adopt this approach: significant constraints faced by governments and the paradigm shift from government to governance. The significant constraints include a lack of information, limited resources, and rapidly changing environments. For example, one sector where governments face challenges that are difficult to address independently is the environmental sector. Issues like waste management are diverse, rapidly evolving, and inherently complex. To find solutions, collaboration between governments and various sectors is essential.

Collaboration enables task-sharing and more effective and efficient execution of responsibilities. Collaborative governance also emerges as a result of the paradigm shift from "government" to "governance." This shift brings new identities to governance, such as decentralized power structures and collective decision-making processes. Understanding the emergence of collaborative governance requires examining the concepts of governance and collaboration.

According to Frederickson, H. George & Kevin B. Smith (2007), governance generally refers to the processes through which actors make decisions, exercise authority, oversee implementation, and provide opportunities for others to participate in decision-making according to established principles, norms, and procedures (Frederickson, 2018).

In general, governance signifies a condition where governments are no longer the sole actors in administration. Instead, collaboration with private sectors, communities, media, and academia becomes necessary for smooth execution. The second concept in collaborative governance is collaboration. Gray, as cited by Thompson and Perry, defines collaboration as a process where all parties interact through both formal and informal discussions, forming structures that manage relationships to reach mutual agreements based on rules and principles of mutual benefit.

Having outlined the foundational concepts of governance and collaboration, it is essential to explore expert perspectives on collaborative governance from various angles. Ansell and Gash define collaborative governance as an arrangement where public organizations interact directly with non-governmental entities in a formal process of policymaking. This interaction adheres to established rules and aims to develop and implement public policies and manage government programs collaboratively. Their definition emphasizes not only the formation of government programs and policymaking processes but also the collaborative implementation of policies and programs. In this process, community involvement is critical. The perspective on collaboration according to Emerson and Nabatchi regarding collaborative governance is as follows:

- a. The government is not the main actor initiating collaboration. In the context of waste management through waste banks, encouraging community initiatives is essential to ensure the sustainability of collaboration over the long term.



- b. Furthermore, collaborative governance can be understood as a process and a structure for the formulation and implementation of policies involving parties from government institutions, the private sector, and the community. This approach ensures that the interests and needs of the community can be met. The involvement of other stakeholders is crucial in waste management through waste banks, as the government faces various limitations that require support from both the private sector and the community.
- c. Collaborative governance also enables community involvement or participation in governance. Thus, the government is not necessarily the primary actor, as the community can also serve as a key player in the collaboration process. The primary role of the community in waste management through waste banks can have a positive impact on addressing waste management issues within society.

From the explanation above, the appropriate collaboration theory to analyze the collaboration model carried out by the Tangerang City Government in waste management is based on the theory of Nabatchi and Emerson (2015). The components used in the collaboration analysis of Tangerang City's waste management through waste banks are:

- a. **Procedural and Institutional Arrangement.**
This refers to the protocols and organizational structures required to manage the interactions occurring in the collaboration between the Tangerang City Government and several parties involved in waste management through waste banks in Tangerang City.
- b. **Leadership**
This involves the roles played by actors as initiators, supporters, facilitators, sponsors, or organizers, as well as public decision-makers. Understanding the roles of each actor is crucial to determine whether the collaboration in waste management through waste banks has followed the role distribution outlined in the procedural and institutional arrangements. This also affects the goals to be achieved through the collaboration.
- c. **Knowledge**
Knowledge refers to the organizational conductivity and performance in a binding process aimed at finding solutions to problems within the collaboration between the Tangerang City Government and stakeholders involved in waste management through waste banks. The knowledge of each actor will provide new perspectives on the effectiveness of the objectives to be achieved.
- d. **Resources**
In this component, each party in the collaboration has limitations in resources to achieve effective actions and identify the potential of each party that has not been optimally utilized to achieve shared goals.

POLICY REVIEW

The Ministry of Environment and Forestry Regulation (Permen LHK) No. 14 of 2021 on Waste Management in Waste Banks has the purpose of ensuring that waste management is carried out continuously and sustainably, with the principle of economic benefit applied by the central government, local governments, and the community, thus providing economic, health, and environmental benefits. Permen LHK No. 14 of 2021 on Waste Management in Waste Banks explains that "Waste is the solid byproduct of daily human activities and/or natural processes. Waste Management is a systematic, comprehensive, and sustainable activity that includes waste reduction and handling. A Waste Bank is a facility for managing waste with the 3R principles (reduce, reuse, and recycle), as a means of education, behavior change in waste management, and the implementation of the Circular Economy, established and managed by the community, business entities, and/or local governments."



Key points in Permen LHK No. 14 of 2021 on Waste Management in Waste Banks are:

- a. Waste management must be carried out comprehensively from upstream to downstream by the central government, using the principle of economic benefit for local governments and communities, thus improving public health and environmental sustainability.
- b. One form of waste management can be conducted through waste banks.
- c. Local governments are authorized to develop Standard Operating Procedures (SOP) for waste management through waste banks.

The general provisions of the Ministry of Environment and Forestry Regulation No. 14 of 2021 on Waste Management in Waste Banks are as follows:

- a. The byproducts of daily human activities and/or natural processes that are solid are referred to as waste.
- b. Waste Management is a systematic, comprehensive, and sustainable activity that includes waste reduction and handling.
- c. Waste generated from daily activities, excluding feces and specific waste, is referred to as Household Waste.
- d. Similar Household Waste refers to household waste originating from commercial areas, industrial areas, special areas, social facilities, public facilities, and/or other facilities.
- e. The concept of a circular economy is an economic model applied in waste management by transforming inorganic waste into raw materials for industry.
- f. A waste bank is a facility that manages waste applying the 3R principles. In addition to being a place for sorting waste, a waste bank can also serve as an educational platform for the community and promote the implementation of the circular economy within society.
- g. A Waste Bank Unit (BSU) refers to a waste bank that serves clients within the scope of neighborhood units (RW), villages, or sub-districts.
- h. A Waste Bank Induk (BSI) refers to a waste bank that provides services across a municipal or district administrative area.
- i. Local governments can form partnerships with the community and business entities based on mutually beneficial principles and strengthen the goals to be achieved. Local governments are also responsible for developing and fostering partnerships, which is called cooperation.

Several provisions in the new regulation will influence the collaboration of the Tangerang City Government in waste management through waste banks. These provisions, which were not included in previous regulations, are now essential components of waste management through waste banks. One example is the provision regarding the Waste Bank Induk (BSI). Tangerang City itself has not fully optimized the provision of facilities and infrastructure for the Waste Bank Induk. This new regulation encourages the Tangerang City Government to collaborate effectively and efficiently to strengthen the network structure of BSUs and BSIs in Tangerang City.

METHODS

In this study, the collaboration was examined qualitatively using several techniques, namely secondary data collection, key informant interviews, and semi-structured interviews. The primary data used includes interviews with representatives of the Environmental Service, representatives of household inorganic waste managers/officers, socialization assistance officers, representatives of environmental conservation activists (Benua Lestari Indonesia), and representatives of the community who play an active role in sorting and collecting household inorganic waste. Secondary data collection was carried out by gathering published data and information from various sources such as books, documents, publications, and other supporting data sources. Additionally, data was obtained through a literature review by collecting information from the internet from various institutions/agencies related to inorganic waste. The analytical method used was a qualitative descriptive approach, which involved describing the circumstances and phenomena that occurred, as well as



identifying the problems for further analysis and in-depth assessment. This approach was carried out logically, systematically, and consistently, and it also allowed for an explanation of the phenomena observed in the field.

RESULT AND DISCUSSION

The research was conducted through in-depth interviews, data collection, and field visits. From the interviews with several waste banks, some challenges were identified in the collaboration between the Tangerang City Government, represented by the Environmental Service, and the Bank Sampah Induk (BSI). Some challenges found in the collaboration between the Tangerang City Government and the waste banks in waste management, based on the theory of Nabatchi and Emerson (2015), include:

- a. **Procedural and Institutional Arrangement.** From the interviews with several waste banks, it was found that there were challenges in scheduling the transportation of inorganic waste, which was not fixed. It was hoped that the Bank Sampah Induk could serve as a facilitator between the community and the government so that the scheduling of inorganic waste transportation at each waste bank could be carried out regularly, allowing for optimal processing of inorganic waste. Separately, the Bank Sampah Induk itself has not yet established an official operational guideline in fulfilling its role as a facilitator in inorganic waste management. According to Bagus Nuari Harmawan (2017), the most emphasized aspect of basic protocols and critical collaboration rules is procedural legitimacy in the collaboration process, which is essential for achieving the goals of the collaboration.
- b. **Leadership.** The Tangerang City Government plays a leadership role in the waste management collaboration between the Bank Sampah Induk and the waste banks (BSU) in Tangerang City. Collaborative leadership is a practical and effective way to address complex problems and challenges (Wilson, 2013). The complexity that arises will encourage cooperation to achieve shared goals. More complicated issues, such as changing requirements based on market demand, make collaborative leadership an essential feature in facing changes, including the implementation of programs (Edwards, 2008). The challenge found in the collaboration is the public's demand for the Tangerang City Government or the Bank Sampah Induk to buy or assign a monetary value to inorganic items that have no economic value. One of the managers of the Asoka Waste Bank expressed: "The expectation is that inorganic items like used lamps or other objects that have no monetary value can be facilitated by the government because many private companies are looking for and buying these items." This situation encourages the Tangerang City Government to actively engage in building collaborations with private sector entities that can utilize the inorganic waste sorted by the community.
- c. **Knowledge.** Knowledge and communication gaps between the Bank Sampah Induk and the Bank Sampah Unit were identified as one of the challenges affecting the collaboration in waste management. Many of the waste banks were unaware of the Bank Sampah Induk and its role. It is hoped that the Tangerang City Government can act as a bridge to improve communication between the Bank Sampah Induk and the Bank Sampah Units. This will enable collaboration and role-sharing to align with the common goals.
- d. **Resource.** A challenge encountered by the waste banks in Tangerang City is the lack of human resources. The limited interest of the community in actively participating in the management of waste banks has hindered the development of waste banks in the city. Interviews with employees of the Tangerang City Environmental Service indicated that the Environmental Service, as the government's representative, has made considerable efforts to support the development of waste banks through regular outreach to each waste bank. However, limited financial support has made it difficult for the collaboration between the waste banks in Tangerang City to provide widespread benefits to the community. Waste bank managers hope that the Tangerang City Government will provide support in the form of new collaborations with the private sector. Currently, there is no partnership or collaboration established between the Bank Sampah Induk in Tangerang City and community-based businesses. With



the central government's policy in place, it is expected that it will encourage collaboration between the Tangerang City Government and waste banks.

CONCLUSION

The collaboration process between the waste bank units, the Bank Sampah Induk, and the Tangerang City Government, analyzed using the theory of Emerson and Nabatchi, has not been fully optimized. One of the indicators, Procedural and Institutional Arrangement, has not been met by each actor. The Bank Sampah Induk, which serves as the facilitator in managing inorganic waste in Tangerang City, has not established proper procedures for managing the waste bank units in the city. The Environmental Service, as the leader and pioneer in the collaboration for waste management through waste banks, has not established a cooperation agreement with the Bank Sampah Induk. There is also no obligation for the Bank Sampah Induk to report the results of its activities to the Environmental Service. Regarding the indicator of Knowledge, there is some information that has not been clearly communicated to the waste bank units about the existence of the Bank Sampah Induk. This will become a barrier in the collaboration process, particularly regarding the roles and responsibilities of the waste bank units toward the Bank Sampah Induk.

SUGGESTIONS

Based on the research findings and the researcher's perspective during fieldwork, several suggestions are put forward to ensure that the collaboration process achieves the desired goals. First, it is essential to encourage the establishment of a formal collaboration agreement between the Bank Sampah Induk and the Tangerang City Government, ensuring that both parties work toward a shared goal. In addition, forming collaborations with private entities is necessary to motivate the waste bank units to grow. The involvement of the Bank Sampah Induk as the facilitator and the Tangerang City Government as the overseer of the collaboration is crucial to ensure its success. Moreover, establishing a communication platform between the waste bank units and the Bank Sampah Induk will help streamline efforts and facilitate the achievement of the goals set for waste management in Tangerang City. Finally, to enhance the potential of the waste bank units, it is important to form a community of these units that organizes periodic community activities supported by the Tangerang City Government, ensuring that the benefits of the collaboration are experienced by the community.

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