

**Research article**

# Collaborative Governance in the Management of a Waste Bank

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**Abstract.**

The Central Waste Bank is a waste management program launched by the Gresik Regency Government, which is a collaboration with the private sector and the community. The main aim of the waste bank is to reduce waste at the final disposal site. The purpose of this study was to examine the collaborative governance model used in the management of this waste bank in Ngargosari Village, Kebomas District, Gresik Regency. A descriptive approach was used where data collection was through observation, interviews and documentation. The informants in this study were the Head of the Environmental Service, the Head of the Cleaning Management Division, PT Surabaya Mekabox, the trustees of the waste bank, garbage collectors and the community. Data analysis was carried out using the Miles and Huberman interactive data analysis model. The results of the study showed that the collaborative governance was part of a structured system involving the government, private sector and community which has been carried out proportionally in the management of the waste bank. This waste bank is part of wider efforts at building economic circulation through waste management to improve the people’s economy.

**Keywords:** collaborative governance, waste management, waste bank innovation

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## 1. Introduction

Collaboration between stakeholders in collaborative governance that involves the government, the private sector, and the community which can also be referred to as collaboration. The concept of collaborative governance is an instrument used to overcome various problems that are difficult to solve because the problems that occur in collaborative governance will become problems that are shared [1]. [2] stated that Collaborative governance did not appear suddenly because it was caused by initiatives from various parties that support cooperation and coordination in solving problems that are being faced by the public. Collaborative governance in government emerged as a response to the failure of implementation and the costs and politicization of regulations [3]. Environmental problems that continue to occur in a sustainable manner regarding waste management. In order for the waste problem to be solved from its roots, it requires

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collaboration by stakeholders in community-based waste management, one of which is realized in the waste bank management program. Collaboration between stakeholders is made so that the waste bank program can run optimally.

Based on the results of research [4] shows that only when stakeholder groups continue to maintain trust, cooperate with each other and communicate effectively, and are open, environmental problems can be better resolved. Furthermore Communities and need further encouragement to participate in environmental governance. Environmental problems cannot be solved by one agency, and it is necessary to have an alliance of governments, companies, and communities for corporations, and communities to build collaborative governance patterns [5]. Furthermore [6] in his research suggests that the collaboration between the government, the public, and the community carried out in Surabaya, begins with building public confidence in the ability of the government and opening up public aspirations. This collaboration is maintained by involving the role of the media (radio and newspapers) as a means of communication between the government and the people. These interactive programs, such as Community Talks, which present community leaders, professionals, and civil servants are very effective in building relationships between stakeholders.

Indonesia as a developing country with a fairly high population density because the rate of population growth every year tends to increase. This causes an increase in population activity which has an impact on increasing waste generation and becomes a very important problem. Management problems in both big cities and small cities are limited equipment, land and human resources, causing waste management to no longer be carried out locally. The development of the solid waste system occurs because of regional management [7].

The Ministry of Environment and Forestry stated that in 2020 the total national waste production has reached 67.8 million tons. This means that around 185,753 tons of waste are produced every day by 270 million people. Or each resident produces around 0.68 kilograms of waste per day, it is estimated that this number will continue to increase every year if it is not immediately addressed. (<https://indonesia.go.id/categories/indonesia-dalam-angka/2533/membenahi-tata-kelola-sampah-nasional>, accessed on July 22, 2021). East Java Province. While the waste problem continues to increase, by the end of 2020, 47 Final Processing Site will be full of waste production which averages 18,500 tons/day. Meanwhile, Gresik Regency's waste pile is 187 tons/day and has 1 unit of Final Processing Site in Ngipik, Kebomas District with an area of 6 Ha.

In addition, regulations governing waste management in the regions are stated in Law no. 18 of 2018 concerning Waste Management, namely collaborative collaboration

between local governments, communities and the private sector. Laws are needed for waste management, world management, responsibility, local government, and the role of the community and waste management can be carried out effectively and efficiently. Used by utilizing the volume of waste, the appropriate waste management method to reduce waste is listed in Government Regulation Number 81 of 2012 concerning Management of Household Waste and Household Waste and State Regulation of the Environment of the Republic of Indonesia Number 13 of 2012 mandates the need for cooperation government in waste management with other parties based on reduce, reuse, and recycle (3R) [8].

[9] explained that in its development, the concept of a waste bank was transformed into various programs and activities that were more applicable, accepted by the community and their daily habits. One of the developments of the 5R concept is the waste reduction movement through waste banks. The waste bank is a place for sorting and collecting recyclable waste that has benefits in addition to trying to reduce the amount of waste, it also facilitates waste management and has economic value for residents. According to [10] a waste bank is a waste collection center where the community as customers saves in the form of waste that has been grouped according to its type. Waste bank customers get a passbook as a record of the results of their deposited savings and the rupiah value of the waste they have saved is listed. Customers can withdraw their savings from the waste bank in the form of Rupiah (money).

The Gresik Regency Government innovates changes in waste management so that the daily volume of waste can be decreased. The Environment Agency of Gresik Regency has created a community-based waste management program, namely a waste bank, which can provide space for all stakeholders (government, private and community) to play a role in the waste bank program to create collaboration. Stakeholders who collaborate with the government are the Gresik Regency Environmental Service, the village or sub-district government, the private sector involved with PT Surabaya Mekabox and the local community. The first waste bank formed by DLH Gresik Regency was Gemes Sekardadu Garbage Bank in Ngargosari Village, Kebomas District, Gresik Regency as a model for waste management in Indonesia and its existence as a central waste bank. This is part of building economic circulation through collaborative governance of waste to improve the people's economy.

This paper is important to analyze the role of waste banks in supporting community-based environmental governance. Public involvement (community, government and private) in waste bank creates effective and collaborative environmental management. This study was conducted based on studies in the creative era that is currently developing,

where human and social resources in a community-based environmental management system through the waste bank mechanism play an important role in development, including environmental management. Idea or intellectual capital is an important factor for society to support innovation that helps economic growth and development [11]. In community-based environmental governance, intellectual capital also activates the community to contribute optimally. The aims of this paper are as follows: to describe the waste in Ngargosari Village, to analyze collaborative governance in waste management at the Gemes Sekardadu Waste Bank in Ngargosari Village, Kebomas District, Gresik Regency as an implementation of creating effective and collaborative environmental management and to determine the supporting factors and obstacles in the implementation of waste management at the Gemes Sekardadu Waste Bank in Ngargosari Village, Kebomas District, Gresik Regency.

## 2. Method

This study uses a qualitative descriptive method approach. The phenomenon to be studied is Collaborative Governance in Central Waste Bank Management in Ngargosari Village, Kebomas District, Gresik Regency so that the data obtained can be more in-depth and can be described clearly and produce research that is in accordance with field conditions, natural. Data collection techniques used are interview, observation, and documentation techniques. The interview technique was carried out by face to face dialogue with stakeholders in collaborative governance in waste management, namely the government of the Ngargosari Village Head and the Gresik Regency Environmental Service, from the private sector, namely PT Surabaya Mekabox, from the community, namely residents in Ngargosari Village, Bank Customers Gemes Sekardu Garbage, and Gemes Sekardu waste bank builder in Ngargosari Village, Kebomas District, Gresik Regency. The focus of this research is the collaborative governance process and the factors that influence the collaboration process.

Data analysis techniques in this study are data condensation, data presentation, Conclusion Drawing and Verification from [12]. While the validity of the data used in this study is through credibility testing which is carried out into triangulation as a process of checking data from various sources with various techniques and various times [13].

### 3. RESULTS AND DISCUSSION

One of the strategies of the Gresik Regency Government is the central waste bank management program in Ngargosari Village, Kebomas District, Gresik Regency. The goal of the Gemes Sekardadu waste bank is that waste reduction can be done from the source of the Ngargosari village community, Kebomas District. In addition, in this waste management, using the collaborative governance model from Ansell & Gash (2012), namely, initial conditions, facilitative leadership, institutional design, collaborative process. This model has several stages consisting of starting conditions, institutional design, facilitator leadership and collaborative process.

#### 3.1. Collaborative governance process

##### 3.1.1. Face-to-face Dialogue

Collaborative governance is built on the basis of face-to-face dialogue as a consensus-oriented process, intensive communication through direct dialogue is needed for stakeholders to negotiate on mutually attainable profit opportunities [14]. The existence of an informal forum is important because people are more comfortable in expressing their opinions. In the form of multilateral meetings, both routine and as needed, formal and informal, initiated by collaborating stakeholders, namely the Gresik Regency Environmental Service, waste bank supervisors, private parties involved in PT Surabaya Mekabox and the community. Face-to-face dialogue as a negotiating medium that is used not only to reach an agreement but as a medium for sharing information and for mutual understanding among stakeholders. An important aspect that forms the basis for the establishment of collaborative governance for waste bank management between the Gresik Regency Environmental Service, waste bank supervisors, the private sector and the community is the existence of a trust. The need for a long-term commitment to achieving collaborative governance from stakeholders to maintain mutual trust, by building intensive communication, as well as real work results that have been shown by each stakeholder, and good relationships that have long been established.

##### 3.1.2. Build Trust

The process of collaborative governance of waste bank management between the Gresik Regency Environmental Service, waste bank supervisors, the private sector, through efforts to maintain trust are carried out through mutual respect for authority and

respect for the role of each stakeholder and transparency in waste bank management. Stakeholders try to provide evidence of their contribution in the process of collaborative waste bank management between the Gresik Regency Environmental Service, waste bank supervisors, the private sector and the community. Based on the results of the research conducted, it shows that collaborative governance in the management of the Central Waste Bank has not been maximized because there is still distrust between stakeholders, the lack of public trust in the government makes the innovation not optimal. In a collaboration, trust from stakeholders is needed, because it will strengthen the relationship of trust between stakeholders and provide evidence that stakeholders not only benefit from collaboration, namely the creation of a clean, comfortable, healthy shared environment, and also contributes benefits.

### **3.1.3. Commitment to Process**

Every stakeholder must be committed to the collaborative process. Commitment is an important factor to determine the success or failure of collaborative governance by stakeholders. Because if the commitment is lacking, it will become a problem [15]. Several points are the joint commitment of stakeholders in collaborative waste bank management between the Gresik Regency Environmental Service, village or sub-district government, the private sector, namely: 1) reducing the volume of waste generation by sorting inorganic waste through a saving program with a waste bank; 2) The waste deposit process is scheduled for a week or it can be once every two weeks; 3) Each member who will deposit the waste is required to fill in the attendance list and must show the waste that is deposited to the waste bank officer; 4) Waste management officers must work according to their main duties and functions (weighing waste, recording the weight of waste deposited by members, savings managers who record the results of deposits, officers who negotiate with waste collectors and then receive money from collectors).

Stakeholders act as reminders of the agreed commitments that are needed in the collaborative governance process. The most active stakeholders in reminding this commitment include the Village Head through the Section Head of the Welfare Section and the Environmental Implementing Unit of the Kebomas District. The media used to remind is through direct dialogue with the community, RT and RW administrators, RW cleaners and waste bank supervisors when in the field.

### 3.1.4. Common Understanding

The main objectives of holding waste bank management among stakeholders are, among others: 1) Creating a healthy and clean environment from waste; 2) Actively reduce environmentally sound waste through increasing the participation of the community and business actors to , 3) Turning waste into a resource that has economic value through a waste bank.

This collaborative effort includes the ability of resources in this case the RT and RW waste officers and the waste infrastructure that is owned which is not balanced with the production of waste per day, truck transportation that is often late and the mindset of the people who are still traditional in handling waste problems and are not used to doing waste management. sorting waste starting from the household environment.

When the stakeholders have agreed regarding the understanding that is a common problem, they can jointly seek an agreement to overcome these problems. From several face-to-face dialogues both directly and formally and joint problem analysis, solutions to these problems are sought together. Another alternative solution to motivate RT and RW administrators as well as business/community people to fix or care for the environment is to motivate them by competing and the kelurahan/village apparatus must be together in the community when problems arise so that they are more enthusiastic and feel like the government present in their midst.

## 3.2. Factors influencing the collaboration process

### 3.2.1. Initial Condition

The initial conditions describe the condition of the stakeholders when the collaboration has not been established. Initial conditions can potentially prevent or encourage stakeholders to initiate collaborative governance processes. [16] divided this initial condition into three, namely the presence or absence of an imbalance of resources/authorities, a history of conflict or previous successful cooperation, aspects of incentives (motivation) and obstacles for stakeholders to participate in collaboration.

At first, the location of the Gemes Sekardadu Waste Bank was just an empty land that was not used by the surrounding community and there were trees on it. In the construction of the waste bank, it was initiated by the environmental cadres of Ngargosari Village, getting both positive and negative responses from the community. The negative response from the community is that they intend to burn the Gemes Sekardadu waste

bank warehouse which is still a building made of gedeg or tabing. This reason is due to people's thinking that the construction of a waste bank will create a buildup of garbage so that the environment becomes slum, smells bad and becomes a nest of disease. Gemes Sekardadu Garbage Bank also collaborates with Junk Collectors related to waste management at the Waste Bank so that all development and management of waste at the waste bank can be in accordance with the planning and right on target.

The factor that motivates stakeholders to participate in the collaborative governance process in waste bank management between the government, the private sector and the community is due to the limitations of each of these stakeholders, so that they complement each other's limitations. Public awareness is still low in reducing the volume of household waste because they are not used to and fully understand the concept of waste sorting. Besides that, it is also encouraged to have different capacities of RT and RW administrators. Another obstacle is the prices for certain commodities such as cardboard, glass cans and aluminum, unused white newspapers and archives, clear plastic in the form of glasses, used electronic goods, glass bottles and copper at the Gemes Sekardadu Main Waste Bank. .

Ansell and Gash (2007) suggest that conflict tends to create low levels of trust, which in turn will result in low levels of commitment, manipulation strategies, and also dishonest communication. The existence of a history of conflict will create a vicious circle of suspicion, distrust, and stereotypes. On the other hand, the existence of this successful past history of cooperation can also create social capital and a high level of trust that results in a good circle of collaboration.

Prior to the establishment of a waste bank management collaboration, there were several conflicts such as the overflow of garbage in Temporary Disposal Sites and also the presence of illegal waste disposal points from residents as a result of full garbage containers and not being handled consistently which resulted in protests to the Kelurahan regarding the solution to the problem. After establishing collaboration through dialogue and finding solutions. Together with the construction of a waste bank, the problem of overflowing waste in Temporary Production Sites and also illegal dumping points can be resolved.

### **3.2.2. Facilitative Leadership**

In their journal, Ansell and Gash explain that leadership directs them to work together in a collaborative process. Leadership is very important to organize clearly, build trust, facilitate a dialogue and explore mutual benefits and advantages. According to [17]



leadership is important to embrace, guide, empower and involve stakeholders and mobilize them to collaborate. In managing the waste bank in a collaborative manner between the government, the private sector and the community, the facilitative leadership is directly coordinated by the builder of the Gemes Sekardadu Waste Bank as the Ngargosari Village Environmental Cadre. In reviewing the process of managing the Gemes Sekardadu waste bank, there is an expert consultant who is an internal part of the Gresik Regency Environmental Service who is also involved in collaborative governance in the waste management of the Gemes Sekardadu Waste Bank.

Expert consultant as a key informant who has the position of Head of the Waste Management Section of the Gresik Regency Environmental Service and the Environmental Cadre of Ngargosari Village. Both are interrelated in providing information and waste bank management activities which are directly conveyed to the builder of the Gemes Sekardadu Waste Bank. The function of the village head in facilitating leadership is to translate what is directed by the Head of the Waste Management Section of the Gresik Regency Environmental Service and the Kebomas Subdistrict Head when taking a role in policy making in collaborative waste bank management. The village head coordinates, facilitates new ideas, empowers relevant stakeholders to collaborate to achieve the goals that have been set. Meanwhile, the function of the Head of the Waste Management Section of the Gresik Regency Environmental Service is to carry out socialization of handling hygiene, to make an appeal not to litter and socialize the waste bank.

### 3.2.3. Institutional Design

Currently, the only regulation that regulates the collaboration process at the Gemes Sekardadu waste bank is the Regulation of the State Minister for the Environment of the Republic of Indonesia Number 13 of 2012 concerning Implementation Guidelines on Guidelines for the Implementation of Reduce, Reuse, and Recycle as stated in Article 1 Paragraphs 1 and 2 (Indonesia, 2013) through Waste Bank. Gresik Regency Regulation Number 5 of 2017 concerning Amendments to Gresik Regency Regulation Number 9 of 2010 concerning Waste Management. The issuance of this regional regulation is one of the triggers for collaboration that functions to accelerate the handling of public infrastructure problems such as the immediate handling of waste handling in public spaces at the village level through a waste bank. In the implementation, there are still no specific regulations and Standard Operating Procedures (SOP) related to the collaboration process carried out by all stakeholders in waste management at the Gemes

Sekardadu Waste Bank. However, there has been a formal cooperation agreement between the Gemes Sekardadu Gresik Waste Bank Trustees and PT Surabaya Mekabox which was carried out on June 3, 2021 which was later revealed in the form of a RW waste bank decree and an integrity pact or some kind of MOU of a performance agreement so that RT and RW administrators are obliged to maintain and foster security, order and including being actively involved and stimulating the participation of its citizens in maintaining environmental cleanliness.

The process of collaborative governance of waste management between the government, the private sector and the community is still dominated by community participation through RT and RW administrators and the government through the Waste Management Section of the Gresik Regency Environmental Service, the role of the private sector is still limited. environment. This collaboration is the most effective way to optimize waste bank management, thereby strengthening the motivation to build collaborative governance.

### 3.2.4. Collaboration Process

According to [18], collaborative governance starts from face-to-face dialogue with stakeholders, this is the core of the process of building trust, mutual respect, mutual understanding, and commitment to the process. Since its inception until now, Gemes Sekardadu waste bank management often holds face-to-face dialogue forums to discuss waste management. The internal meeting is an internal work meeting held as needed or an annual meeting that must be attended by collaborators who discuss reports and evaluate the performance of Gemes Sekardadu waste bank management. However, from the private sector, namely PT Surabaya Mekabox, in the annual meetings held, they still rarely attend. The importance of this stakeholder meeting is trust building in waste bank management through formal communication by coordinating the implementation of activities related to waste banks as well as informal communication carried out by coordination via WhatsApp with the waste bank supervisor Gemes Sekardadu, garbage collectors and the village government. going very well. [19] stated that the success of an activity is due to a strong commitment from stakeholders to the implementation process.

In addition [20] commitment is the belief that collaborative governance will benefit each party and the public interest so that it creates a strong commitment to solving existing problems. Commitment in the collaborative process is an agreement on prices, types of waste, and delivery times that have been agreed upon by both parties and also depositing waste from the Gemes Sekardadu waste bank to the junk collector if the warehouse is full of dry waste types so as to reduce the amount of remaining

waste and protect the environment such as rivers and roads to be free of garbage. Meanwhile, coordination in the form of socialization of waste bank management and public education is still minimally carried out by collaborators, resulting in a lack of public trust in collaborators. One way to build trust between collaborative actors in waste management is transparency in the form of performance reports and financial reports. (Ansell & Gash, 2008) stated that stakeholders must have the same understanding of collaboration, both clear vision, mission and goals, and alignment of core issues. Meanwhile, collaborators with the villagers of Ngargosari, Kebomas District, still do not have the same understanding about the importance of managing waste banks, this is the main obstacle in the collaborative process of managing waste banks.

#### 4. CONCLUSIONS

In the Collaborative Governance process, an informal forum has been established in the form of multilateral meetings, both routinely and as needed, based on face-to-face dialogue oriented to consensus, intensive communication. Face-to-face dialogue as a negotiation medium is used to reach agreement and share information and mutual understanding among stakeholders; Foster trust among stakeholders in waste bank management, both from the Gresik Regency Environmental Service, waste bank supervisors, private parties and the public; The formation of commitment from stakeholders in realizing collaborative governance through intensive communication, as well as real work results that have been shown by each stakeholder, and good relationships that have existed for a long time.

Factors that affect the collaboration process include: The initial conditions in which the factors that motivate stakeholders to participate in the collaborative governance process in waste bank management between the government, the private sector and the community are due to the desire to complement each other from the limitations that exist. owned by each stakeholder in order to resolve existing problems through dialogue and jointly seek solutions through waste banks so that the problem of overflowing waste at temporary dump and also illegal landfills can be resolved; facilitative leadership is coordinated directly by the builder of the Gemes Sekardadu Waste Bank as the Ngargosari Village Environmental Cadre; Institutional designs related to laws and regulations (Laws, Legislations and Regional Regulations) have been completed to regulate the process of cooperation in the management of Gemes Sekardadu waste bank, but in its implementation, although there has been cooperation between stakeholders, there are still no specific regulations and standard. The Operational Procedure is related to the

collaboration process carried out by all stakeholders in the management of the Gemes Sekardadu Waste Bank.

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