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# Implementation Of A Waste Bank Management Program In The South Tangerang City Area (Study In Benda Baru Subdistrict)

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**ABSTRACT:** This research aims analyze to the implementation of the waste bank management program and the waste bank management model in Benda Baru Subdistrict, South Tangerang City. This research uses a qualitative approach, data collection techniques using observations, in-depth interviews, Focus Group Discussions (FGD) and documentation. The sampling technique used in this research was purposive sampling. The informants consisted of 5 groups of informants, namely the Environmental Service, Village Employees, Waste Bank Managers, Environmental Monitoring Institutions and the Community of Banda Baru Village, South Tangerang City. This research uses the Miles and Huberman Model Qualitative Data Analysis Technique where the implementation of the waste bank management program uses policy implementation theory from George C. Edwards III, namely four variables in public policy, namely Communication, Resources, attitudes (dispositions or attitudes) and bureaucratic structure and Van Horn Theory. The latest in this research is the collaboration between the use of information technology and public policy regarding waste bank management. Waste bank management model to implement a waste bank management program by including information technology elements in the information flow, sorting/sorting flow, bookkeeping flow and customer deposit distribution flow at the waste bank. Meanwhile, the model for implementing the waste bank management program in the flow of collecting or purchasing waste from local government waste banks requires establishing a Regional Owned Enterprise or regional company that specifically handles waste produced from waste banks. This has a massive impact on the green economy concept to improve community welfare.

**Keywords:** Policy Implementation, Management, Waste Bank, Waste, Green Economy

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### INTRODUCTION

Efficient waste management is the main prerequisite for achieving sustainability because waste is produced every day (Fatimah, Y. A., Govindan, K., Murniningsih, R., & Setiawan, A., 2020)"

Therefore, the existence of a waste bank also provides economic benefits to the surrounding community such as creating jobs, additional sources of income, while the city government can reduce the costs of handling and disposing of waste for the local area (Banerjee, S., & Sarkhel, P., 2020). South Tangerang City has 333 Waste Banks, which were established as a response to the waste problem in South Tangerang City. The volume of waste continues to increase every year, requiring special attention from the government and local community (Chriqui et al., 2023a, 2023b; Nudzor, 2014). The people of South Tangerang City have felt enormous benefits from its existence. waste bank (Belmonte-Ureña et al., 2021; Bergius et al., 2018; Klingenberg & Kochanowski, 2015; Kumar & Sinha, 2014). The Waste Bank is able to empower housewives to manage waste into final products that can be sold and make money so that they can increase family income. (Aall et al., 2015; Khodke et al., 2021; McCollum & Packwood, 2017; Yao et al., 2017)

The following is relevant previous research related to research entitled: Implementation of the Waste Bank Management Program in the South Tangerang City Area (Study in Benda Baru Subdistrict) :

- 1. The research is entitled, Implementation analysis of solid waste management in Ludhiana city of Punjab. Environmental Challenges, 2021, by Ishfaq Showket Mir, Puneet Pal Singh Cheema, Sukhwinder Pal Singh who mentioned that the daunting task of managing solid waste has affected the city of Ludhiana in Punjab. To investigate the current scenario and to carry out an analysis of the implementation of solid waste management (SWM) in the city, this research was conducted. This research focuses on analyzing the factors that hinder the successful implementation of waste management policies in the city. For the research purpose, a mixed methodology of quantitative and qualitative analysis was adopted to collect primary and secondary data from various sources. A Structured Questionnaire was prepared for the household survey in the city according to the research variables. Discussions and interviews were held with selected officials from the city's solid waste department. This research found various financial, human resource, political and logistical constraints that influenced the successful implementation of the SWM program in the city. Data were analyzed using importance performance analysis to evaluate factors that need to be addressed to improve solid waste management in the city. At the implementation stage of solid waste management, administrative obstacles such as lack of modern technology and equipment, lack of land for disposal and disposal, and lack of an integrated solid waste management (ISWM) program are obstacles to successful implementation. Based on this analysis, this study proposes various policy recommendations regarding administrative challenges to improve waste management in cities. (Mir, I. S., Cheema, P. P. S., & Singh, S. P., 2021)
- 2. Research conducted by Victor Emery David Jr, Yasinta John & Shahid Hussain, 2020 entitled Rethinking sustainability: a review of Liberia's municipal solid waste management systems, status, and challenges, has revealed that the condition of the municipal solid waste management system (MSWM) in Liberia This concern is the motivation for carrying out this review and analysis. Solid waste management protocols and dynamic systems modeling support policy development because they use waste prevention to explain complex waste management systems and suggest methods for effective management. However, creating an effective waste system is not just about formulating policies and legislation; it involves

financial and technological proficiency, skilled human capacity, technical, social, resource recycling, educational awareness programs, and active community participation. Due to urbanization, the problem of municipal solid waste (MSW) in Liberia is increasing, impacting the economic, social and political fabric of society by overburdening infrastructure and social facilities. The impacts of urbanization must be addressed because urbanization, among several factors, including unsustainable municipal waste management, damages the environment and poses risks to public health. The aim of this review is to highlight current waste management activities in Liberia and provide readers with information about the challenges facing the waste management sector and the challenges that hinder the development of a sustainable waste management system. In Liberia, waste management activities are getting worse every day due to the lack of a comprehensive waste management framework, the absence of guidelines regarding the responsibilities of waste generators, and the lack of intention of decision makers to design and implement sustainable and integrated management systems. Recommendations for collaborative efforts are made with a focus on delivering a waste strategy that concentrates on waste minimization, recycling, resource recovery, and encouraging sustainable waste management practices for communities, small businesses, corporations, and government agencies in Liberia and other developing countries. (David Jr, V. E., John, Y., & Hussain, S., 2020)

The problem is, in general the waste bank administration system is still manual, so that services to banks are less effective and efficient. (Kurniawan, T. A., Meidiana, C., Othman, M. H. D., Goh, H. H., & Chew, K. W., 2023) In an effort to pick up the ball, the Waste Bank in Benda Baru Subdistrict, South Tangerang City strives to continue making continuous improvements so that it can overcome waste problem and contribute to improving community welfare in South Tangerang City. Based on initial observations with 13 Waste Banks in the Benda Baru sub-district, data from Waste Bank managers showed that there were several obstacles in managing Waste Banks, including managing customer data still being done manually, resulting in the risk of recording errors and the loss of customers' waste savings books (Asteria & Herdiansyah, 2022; Sato et al., 2016).

From the results of initial observations from 33 Waste Banks in Benda Baru Village, data was obtained on 13 Waste Banks with problems in the form of recording still being done manually so that customer data often differs and customer savings books are lost.

Customer Data Problems at Waste	Banks in Benda Baru Village
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No.	Name of Waste Bank	Problems	
1.	Ketumbar	Recording is still done manually so that customer data	
		is often discrepant and customer savings books are	
		lost.	
2.	Graha Indah 2	Recording is still done manually so customer data often	
		differs.	

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3.	Berseri 03	Recording is still done manually so customer data often
		differs.
4.	Sri Rejeki	Recording is still done manually so that customer data
		is often discrepant and customer savings books are
		lost.
5.	Sejahtera 05	Recording is still done manually so customer data often
		differs.
6.	Wijaya Kusuma	Recording is still done manually so customer data often
		differs.
7.	Seroja	Recording is still done manually so that customer data
		is often discrepant and customer savings books are
		lost.
8.	Asri Berseri	Recording is still done manually so customer data often
		differs.
9.	ATM	Recording is still done manually so customer data often
		differs.
10.	Maju Bersama	Recording is still done manually so customer data often
		differs.
11.	KPR	Recording is still done manually so customer data often
		differs.
12.	Sejahtera 15	Recording is still done manually so customer data often
		differs.
13.	Bersih Kemilau	Recording is still done manually so customer data often
		differs.

Source: Research data processed, 2023

Based on the background of the problem above, the research problem can be formulated as follows: 1). How is the waste bank management program implemented in Benda Baru Village, South Tangerang City? 2). What is the appropriate waste bank management model in Benda Barui Village, South Tangerang City?

### METHOD

This research uses a qualitative approach, data collection techniques using observations, in-depth interviews, Focus Group Discussions (FGD) and documentation. The sampling technique used in this research was purposive sampling. The informants consisted of 5 groups of informants, namely the Environmental Service, Village Employees, Waste Bank Managers, Environmental Monitoring Institutions and the Community of Benda Baru Village, South Tangerang City. This research uses the Miles and Huberman Model Qualitative Data Analysis Technique where the implementation of the waste bank management program uses policy implementation theory from George C. Edwards III, namely four variables in public policy, namely Communication, Resources, attitudes (dispositions or attitudes) and bureaucratic structure and Van Horn Theory.

### **RESULT AND DISCUSSION**

# 1. Implementation of a waste bank management program in Benda Baru Subdistrict, South Tangerang City

According to Edward III (1980) the factors or variables that influence the policy implementation process are:

### a. Communication

Implementation will be carried out effectively if the information is known to decision makers with good communication. "There are three indicators used to measure the success of communication variables. The three indicators are: (1) Transmission. Good communication distribution will also produce good implementation. Problems often occur in the distribution of communication, namely misunderstanding (miscommunication) caused by the many levels of bureaucracy that must be passed in the communication process, so that what is expected is distorted midway; (2) Clarity. Communication received by policy implementers (street-level-bureaucrats) must be clear and not confusing or ambiguous/ambiguous; (3) Consistency. Orders given in implementing a communication must be consistent and clear to be determined or carried out. If the orders given frequently change, it can cause confusion for implementers in the field." (Edward III, 1980 in VanDerHorn, E., & Mahadevan, S., 2021)

Based on the results of interviews with the South Tangerang City Environmental Service, Benda Baru Village Employees, the Benda Baru Village Waste Bank Forum, several communities in February 2024, overall communication in the implementation of the Waste Bank has been carried out well, but the implementation has not been optimal. Based on the transmission dimension, communication is carried out by sub-district officials and motivators of the Waste Bank because the Waste Bank only facilitates waste management. And the Waste Bank itself has given authority to each sub-district to carry out outreach to its residents. Apart from that, there is also an accompanying motivator from the Environmental Service who is tasked with carrying out outreach. So, in terms of communication transmission, it has to go through several levels of bureaucracy, this is what causes implementation distortions to easily occur. From the dimension of clarity, namely the information conveyed by the District and motivators is clear, namely about what a Waste Bank is and what types of waste can still be recycled and can be sold. From the consistent dimension, the information conveyed is always the same and does not change, it's just that the timing of its implementation is not consistent. Communication really determines the success or failure of implementing a policy. Effective implementation will occur if the communication carried out is effective and efficient. Therefore, policy content must be distributed clearly and consistently in order to minimize implementation distortions as stated by Edward III (Juliana, G. E. S., & Prakoso, L. Y., 2022) Communication is important in implementation, but truly perfect communication is actually a condition that is difficult to achieve. However, this can be overcome by maximizing everything that can be done. Of course, no government or organization can work perfectly. There are always weaknesses, however, errors must be minimized from things that can actually be anticipated early on. One thing that can be anticipated is communication coordination. (Clemm, A., Vega, M. T., Ravuri, H. K., Wauters, T., & De Turck, F., 2020),

### b. Resource

According to Edward III (1980) in (Velasco-Muñoz, J. F., Mendoza, J. M. F., Aznar-Sánchez, J. A., & Gallego-Schmid, A. (2021), resources are important in implementing good policies. The indicators used to see the extent to which resources influence policy implementation consist of: (1) Staff, the main resource in policy implementation is staff or employees (street-level bureaucrats). Failures that often occur in implementing policies are caused by staff/employees who are inadequate, inadequate or incompetent in their fields. Increasing the number of staff and implementors alone is not enough to solve policy implementation problems, but requires sufficient staff with the necessary skills and abilities (competent and capable) in implementing policies; (2) Information. In policy implementation, information has two forms, namely: first, information related to how to implement the policy. Second, information regarding compliance data from implementers with established government rules and regulations. (3) Authority. In general, authority must be formal so that orders can be carried out effectively. Authority is the authority or legitimacy for implementers in implementing politically determined policies. When authority does not exist, the power of implementers in the eyes of the public is not legitimized, so that it can thwart the implementation of public policies. But in other contexts, when formal authority is available, errors often occur in seeing the effectiveness of authority. On the one hand, the effectiveness of authority is needed in implementing policies; but on the other hand, effectiveness will decrease when authority is misused by the implementers for their own or their group's interests; (4) Facilities. Physical facilities are an important factor in policy implementation. The implementor may have sufficient, capable and competent staff, but without supporting facilities (facilities and infrastructure) the implementation of the policy will not be successful.

Based on the results of interviews with the South Tangerang City Environmental Service, Benda Baru Village, the Benda Baru Village Waste Bank Forum, and waste bank administrators as well as the community and findings in the field, it can be concluded that the equipment resources at the Waste Bank do not yet exist. Because there are no plastic and paper shredding machines yet. There are also no equipment resources in the form of vehicles. The overall conclusion is that the resources available at the Waste Bank are still not being implemented properly. In terms of human resources, this is not yet adequate, this is proven by the absence of employees hired according to the required skills or abilities. Meanwhile, equipment resources are still lacking because the only equipment that helps implement this policy does not exist. Edward III in (Tang, F., Mao, B., Kawamoto, Y., & Kato, N., 2021) believes that even though the contents of the policy have been communicated clearly and consistently, if it is not supported by adequate resources, implementation will not be effective. The resources in question are human resources and equipment resources are an important factor in achieving effective policy implementation. Without resources, policies just remain on paper and become documents.

### c. Attitude of Bureaucracy or Implementers

Edward III (1980) in (Velasco-Muñoz, J. F., Mendoza, J. M. F., Aznar-Sánchez, J. A., & Gallego-Schmid, A. (2021) stated that, "tendencies or dispositions are one of the factors that have important consequences for effective policy implementation. If the implementers have a positive tendency or attitude or support for policy implementation, there is a big possibility that policy

implementation will be carried out in accordance with the initial decision. "Conversely, if the implementers have a negative attitude or refuse to implement the policy because of a conflict of interest, then the implementation of the policy will face serious obstacles." One important factor in the progress of implementation is disposition. Disposition is the character and characteristics possessed by the implementer, such as commitment, honesty, democratic nature. If the implementor has a good disposition, then he will be able to carry out the policy well as desired by the policy maker. When the implementor has a different attitude or perspective from the policy maker, the policy implementation process will also be ineffective. (Jahidi, I., Budiyati, A., & Indah, D., 2016)

Based on the results of interviews with the South Tangerang City Environmental Service, Benda Baru Village, the Benda Baru Village Waste Bank Forum, and the community, it was concluded that the disposition or character of the residents was very influential in the process of implementing the Waste Bank program. This is in line with the opinion of Van Meter and Van Horn, where in (Hartawan, R. C., & Kosasih, F., 2023) Van Meter and Van Horn said that the implementor's disposition includes three important things, namely: (a) the implementor's response to the policy, which will influence the implementor's willingness to implement it. a policy; (b) cognition, namely the implementer's understanding of the policy; (c) the intensity of the implementor's disposition, namely the value preferences held by the implementor. The overall conclusion regarding disposition is that the characteristics or character of each society certainly varies. And disposition plays an important role in the policy implementation process in accordance with what Edward III said in (Hartawan, R. C., & Kosasih, F., 2023), namely that if the implementor has a good disposition, then he will carry out the policy well in accordance with what is expected by the policy maker. When the implementor has a different attitude or perspective from the policy maker, the policy implementation process will become ineffective. Mazmanian and Sabatier in (Hartawan, R. C., & Kosasih, F., 2023) also say that programs aimed at providing knowledge will be easier to implement than programs aimed at changing attitudes. Therefore, the role of the Waste Bank and sub-district parties is needed to continue to educate the public about the importance of sorting waste so that not all waste ends up in the landfill because there is still waste that has economic value. By always carrying out socialization, slowly the attitude or perspective of residents regarding waste will change.

## d. Bureaucratic Structure

According to Edwards III (1980) in (Velasco-Muñoz, J. F., Mendoza, J. M. F., Aznar-Sánchez, J. A., & Gallego-Schmid, A. (2021), "there are two main characteristics of bureaucracy, namely: Standard Operational Procedure (SOP) and fragmentation". "Standard operational procedures (SOP) are a development of internal demands for certainty of time, resources and the need for uniformity in complex and extensive work organizations." (Qarni, W., Nasution, D. A., & Riinawati, R., 2022). By using SOPs, implementers can optimize the available time and can serve to standardize the actions of officials in complex and widespread organizations, thereby creating great flexibility and great similarity in the application of regulations. (Lo-Fo-Wong, K., 2023)"

Statements from interviews with the South Tangerang City Environmental Service, Benda Baru Village, Waste Bank Management, the Benda Baru Village Waste Bank Communication Forum

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and the community indicate that in implementing the Waste Bank there is a simple organizational structure and there are no applicable SOPs. Based on the results of observations made by researchers, researchers found that there were no working hours applied to the Waste Bank based only on information and agreement in the W.A group. Apart from that, there is no routine schedule and mechanism for collecting waste, but there is a recording of the type and volume of waste sold to the Waste Bank. This is not in accordance with Minister of Environment and Forestry Regulation No. 14 of 2021 concerning Waste Management at Waste Banks. The Benda Baru Subdistrict Staff also said something similar: "As far as I know, there are no working hours at the Garbage Bank, their management only volunteers their working hours and they only arrange the weighing and selling hours. The sub-district does not interfere" (SLN Interview dated 16 February 2024) Based on the results of the interview above, it can be concluded that the SOP does not yet exist at the Waste Bank and is not in accordance with existing regulations. Edward III in (Hartawan, R. C., & Kosasih, F., 2023) said that the organizational structure tasked with implementing policies has a significant influence on policy implementation. One important aspect related to organizational structure is the existence of standard operating procedures (SOP). This SOP will be a reference for implementers in taking action. The SOP implemented by the Central Waste Bank is in accordance with Minister of Environment and Forestry Regulation No. 14 of 2021 concerning Waste Management at Waste Banks, namely working hours, a pick-up schedule and a waste collection mechanism, apart from that there is also recording of the amount and volume of waste. However, researchers found that recording was still done by recording in books, whereas now is the era of using technology which will certainly make things easier. Based on Law Number 18 of 2008 concerning waste management with the community-based 3R Reduce, Recycle and Recycle concept. Then the government is tasked with developing and increasing public awareness in waste management. To realize the implementation of community-based waste management, the Ministry of Environment issued Minister of the Environment Regulation Number 13 of 2012 concerning guidelines for implementing community-based 3R Reduce, Reuce and Recycle through Waste Banks. To realize the above, the Ministry called on Mayors including the Mayor of South Tangerang to form a Waste Bank, so Mayor Regulation Number 50 of 2017 concerning Waste Management was issued.

### 2. Waste bank management model in Benda Baru Subdistrict, South Tangerang City

The waste bank management model in Benda Baru Subdistrict based on the results of field observations is divided into several channels. Regarding the flow of the waste bank deposit process, it starts from the customer, namely the community, who deposits waste at the Waste Bank. The waste bank officers will sort or sort the type of waste based on the type of waste. If the waste brought by residents has been sorted, the type of waste that is not accepted will be returned. The waste received will be weighed based on the type of waste. After completing the weighing, the weighing results will be calculated and then the weighing results will be recorded in the weighing report book at the waste bank and in the customer's book manually.

Regarding the flow of the waste sales process, it starts from the flow of depositing waste from customers to the waste bank according to the previous flow. After that, the waste bank carries out an overall weighing by sorting according to the type of waste. After that, the waste bank management will contact waste collectors who are usually individuals or private businesses. After

the collector arrives, the collector will usually re-weigh it if necessary and then make payment according to the type of waste and the agreed price. The results of payments by the waste bank management will be recorded in the bookkeeping of waste sales results. From these results, payments will be made to customers according to the customer's waste weighing records.

Regarding the flow of the process of paying waste products to customers, it starts from the flow of selling waste by the waste bank to the collector and the waste bank has received payment from the collector. The flow of payment for waste products to customers begins with the waste bank notifying the customer that the waste that has been weighed by the waste bank has been paid for by the collector and the customer is invited to bring the customer's book to the waste bank. This notification is usually through the waste bank W.A group. The waste bank then validates the customer's savings book with the bookkeeping records at the waste bank. Once valid, the waste bank will determine the amount you wish to pay. If the money in the waste bank is not yet available, the waste bank will refuse the customer's application for payment, but if there are sufficient funds, the waste bank will make the payment to the customer. The waste bank will issue the money and record it in the customer's savings book as well as the waste bank's bookkeeping for the money that has been spent. In the final stage the customer will receive payment money from the waste bank.

From the flow above, the waste bank management model is included in the Central Collection Model. In this model, residents bring separated waste to a central waste bank location. There, waste bank officers will receive, sort and provide incentives to residents according to the amount and type of waste brought. (Kubota, R., Horita, M., & Tasaki, T., 2020) There are several types of waste bank management models that can be implemented, depending on the needs and local conditions of the community. Here are some of them:

### a. Direct Collection Model

In this model, the waste bank collects waste directly from residents' homes or residences. Waste bank officers will come regularly to pick up rubbish that has been separated by residents. (Asteria, D., & Herdiansyah, H., 2022)

### b. Central Collection Model

In this model, residents bring separated waste to a central waste bank location. There, waste bank officers will receive, sort and provide incentives to residents according to the amount and type of waste brought. (Kubota, R., Horita, M., & Tasaki, T., 2020)

### c. Community Model

In this model, the waste bank is managed independently by the community or community group. Community members work together in collecting, sorting and managing waste, and benefit from the proceeds from the sale or processing of waste. (Asteria, D., & Herdiansyah, H., 2022)

### d. Collaborative Model

In this model, waste banks collaborate with other parties such as the government, companies or non-profit institutions. This collaboration may include providing waste processing facilities, funding, or technical support. (Asteria, D., & Herdiansyah, H., 2022)

#### e. Mobile or Moving Model

In this model, waste banks use mobile vehicles to collect waste from certain locations. This vehicle is equipped with simple sorting and processing facilities. (Erdem, M., 2022).

### f. High Technology Model

In this model, waste banks utilize high technology such as mobile applications or smart sensors to facilitate more efficient collection, sorting and management of waste. (Erdem, M., 2022). (Prodjohamijo, 2007)

### g. Carbon Trading Model

In this model, waste banks convert organic waste into renewable energy or reduce greenhouse gas emissions. The waste bank can then obtain tradable carbon credits. (Erdem, M., 2022).

### h. Business Partnership Model

In this model, waste banks establish partnerships with local businesses to utilize waste as raw materials in production or manage their waste. (Asteria, D., & Herdiansyah, H., 2022)

Each model has its own advantages and challenges, and the choice of the appropriate model will depend on factors such as local needs, available resources, and the level of community involvement. A combination of these models can also be applied simultaneously to increase the effectiveness and sustainability of waste bank management.

### CONCLUSION

Implementation of a waste bank management program in Benda Baru Subdistrict, South Tangerang City a). The communication carried out by the Waste Bank is good in the dimension of clarity, but in the dimension of transmission it is still lacking, namely the many levels of bureaucracy that it has to go through, resulting in easy distortion of implementation. Regarding the consistent dimension, the information conveyed is always the same and does not change, it's just that the timing of its implementation is inconsistent. b). Human resources are qualified, this is proven by the large number of employees employed in accordance with the required skills or abilities. Meanwhile, in terms of equipment resources, there is nothing to help implement this policy. c). Disposition, namely the characteristics or character of each society, certainly varies. And disposition plays an important role in the policy implementation process. d. The existing bureaucratic structure at the Waste Bank is not good. Because the applicable SOP is not in accordance with existing regulations. The existing weighing mechanism is not yet clear.

The appropriate waste bank management model in Benda Baru Subdistrict, South Tangerang City is included in the Central Collection Model. In this model, residents bring separated waste to a central waste bank location. There, waste bank officers will receive, sort and provide incentives to residents according to the amount and type of waste brought.

Meanwhile, the model for implementing the waste bank management program in the flow of collecting or purchasing waste from local government waste banks requires establishing a Regional Owned Enterprise or regional company that specifically handles waste produced from waste banks. This has a massive impact on the green economy concept to improve community welfare.

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