



IMPLEMENTATION OF THE WASTE BANK PROGRAM IN HANDLING WASTE IN THE CITY OF SERANG

IMPLEMENTASI PROGRAM BANK SAMPAH DALAM MENANGANI SAMPAH DI KOTA SERANG

**Zahra Khoiru Nisa¹, Indah Dwi Agusti², Aas Winarti³, Irgi Apriliansyah⁴, Fathur
Perdana Zaty⁵**

^{1,2,3,4,5}Sultan Ageng Tirtayasa University

nisazahrakhoiru@gmail.com¹

Indahagusti11@gmail.com²

aaswinarti05@gmail.com³

irgireal@gmail.com⁴

Fathurperdana140204@gmail.com⁵

Abstract

Waste management in Serang City remains a significant challenge for the local government. With a population of 735,651 in 2023 and a density of 2,700 people/km², the volume of waste produced continues to increase. To address this, the Serang City Government has implemented a waste bank program aimed at reducing the amount of waste ending up in the Final Processing Site (TPA). This program seeks to raise public awareness about waste management through sorting, recycling, and utilizing waste. This study employs a qualitative approach to examine the implementation of the waste bank program in Serang City. Smith's model is utilized to analyze the policy implementation process, focusing on four variables: idealized policy, target groups, implementing organization, and environmental factors. The findings indicate that, despite the efforts of the Environmental Agency and waste bank organizations, the program's implementation has not been optimal. Contributing factors include a lack of community participation, an insufficient number of personnel, and inadequate facility support. However, some sub-districts exhibit high levels of community participation, with residents utilizing waste banks as a source of economic value. This demonstrates the potential for the program to succeed if these issues are addressed. Recommendations for improving the waste bank program include enhancing community engagement through education and outreach, increasing the number of personnel dedicated to the program, and providing better facilities and resources to support waste management efforts. By addressing these challenges, the Serang City Government can make significant strides in improving waste management and reducing the environmental impact of waste.

Keywords: Waste Bank, Policy Implementation, Waste Management, Smith Mode.

Abstrak

Pengelolaan sampah di Kota Serang tetap menjadi tantangan besar bagi pemerintah daerah. Dengan populasi sebanyak 735.651 jiwa pada tahun 2023 dan kepadatan 2.700 orang/km², volume sampah yang dihasilkan terus meningkat. Untuk mengatasi masalah ini, Pemerintah Kota Serang telah menerapkan



program bank sampah yang bertujuan untuk mengurangi jumlah sampah yang berakhir di Tempat Pemrosesan Akhir (TPA). Program ini bertujuan untuk meningkatkan kesadaran masyarakat tentang pengelolaan sampah melalui pemilahan, daur ulang, dan pemanfaatan sampah. Penelitian ini menggunakan pendekatan kualitatif untuk meneliti pelaksanaan program bank sampah di Kota Serang. Model Smith digunakan untuk menganalisis proses implementasi kebijakan dengan fokus pada empat variabel: kebijakan ideal, kelompok sasaran, organisasi pelaksana, dan faktor lingkungan. Hasil penelitian menunjukkan bahwa meskipun ada upaya dari Dinas Lingkungan Hidup dan organisasi bank sampah, implementasi program belum optimal. Faktor-faktor yang berkontribusi termasuk kurangnya partisipasi masyarakat, jumlah personel yang tidak memadai, serta kurangnya dukungan fasilitas. Namun, beberapa kecamatan menunjukkan tingkat partisipasi masyarakat yang tinggi, dengan warga memanfaatkan bank sampah sebagai sumber nilai ekonomi. Hal ini menunjukkan potensi keberhasilan program jika masalah-masalah ini diatasi. Rekomendasi untuk meningkatkan program bank sampah meliputi peningkatan keterlibatan masyarakat melalui pendidikan dan sosialisasi, menambah jumlah personel yang didedikasikan untuk program ini, serta menyediakan fasilitas dan sumber daya yang lebih baik untuk mendukung upaya pengelolaan sampah. Dengan mengatasi tantangan-tantangan ini, Pemerintah Kota Serang dapat membuat kemajuan signifikan dalam meningkatkan pengelolaan sampah dan mengurangi dampak lingkungan dari sampah.

Kata Kunci: Bank Sampah, Implementasi Kebijakan, Pengelolaan Sampah, Smith Mode.

INTRODUCTION

Waste is a common problem in various countries, especially in developing countries like Indonesia. The waste issue can be caused by increasing population density and decreasing availability of land for waste disposal. As a result, this situation leads to an increase in waste production. This condition contrasts with the availability of waste management facilities, ultimately causing environmental disruption. Waste is solid material discarded from household activities, markets, offices, lodgings, hotels, restaurants, industries, construction, and scrap metal (Abdussamad et al., 2022). According to the World Health Organization (WHO) (Sania Nur Haulia et al., 2021), waste refers to items that are unused, not consumed, unwanted, or discarded, originating from human activities and not occurring naturally. Meanwhile, according to Law Number 18 of 2008 on Waste Management, waste is the residue from daily human activities and/or solid forms resulting from natural processes. Therefore, it can be concluded that waste is material or objects that are no longer used or unwanted residues. Waste includes objects no longer used by living organisms and discarded items from daily community activities, industrial operations, or household chores.

According to data from the National Waste Management Information System (SIPSN) of the Ministry of Environment and Forestry (KLHK), input from 202 regencies/cities across Indonesia in 2023 shows that the national waste volume reached 21.1 million tons. Waste management remains an issue that must be addressed by various provinces in Indonesia, including Banten Province. According to SIPSN data, the waste volume in Banten Province reaches 2.62 million tons, making it the fifth-largest in Indonesia. Serang City, the capital of Banten Province, has become a focal point regarding waste issues. The waste problem in Serang City has reached an alarming stage. The population of Serang City in 2023 was 735,651 people, with a density of 2,700 people/km². This makes Serang City a busy area with various activities affecting the amount of waste produced. Currently, the waste managed by the Serang City government is disposed of at the Cilowong Final Processing Site (TPAS).



Table 1
Waste Volume in 2022-2023 in Serang City

District	SEMESTER 1			SEMESTER 2		
	Amount of Handled Waste	Total Waste Production	Percentage (%)	Amount of Handled Waste	Total Waste Production	Percentage (%)
Cipocok Jaya	5.629,32	15.652,94	35,96	16.729,62	31.305,87	53,44
Curug	2.695,73	9.361,05	28,80	9.705,73	18.722,11	51,84
Kesemen	6.683,35	16.789,17	39,1	20.471,35	33.578,35	60,97
Serang	4.071,58	35.532,72	65,08	73.573,75	71.065,44	103,53
Takatakan	4.435,36	15.968,47	25,50	14.672,01	31.936,95	45,94
Walantaka	4.435,36	16.085,03	27,57	15.256,26	32.170,05	47,42
Total	46.638,91	109.389,39	222,72	150.408,72	218.778,78	68,75

Source: Environmental Service Office of Serang City, 2023.

The data above demonstrates that Serang City does not collect all waste in each district. The uncollected waste is due to a lack of public awareness about proper disposal practices. Residents dispose of some uncollected waste by burying it, throwing it into rivers, burning it, and other methods. Additionally, the number of available sanitation workers is insufficient compared to the city's area. In densely populated districts, the difficulty in finding land for waste disposal is also a problem. The low community involvement in solid waste management is due to the perception that waste is solely the government's responsibility, while the community feels obliged only to pay for the waste they dispose of.

Table 2
Rasio of Waste Disposal Sites to the Population per 1000,000 People in 2022-2023

No.	Uraian	2022	2023	
			Semester I	Semester II
1	Jumlah TPS	130	130	130
2	Jumlah Daya Tampung TPS (m3)	1.780	1.780	1.780
3	Jumlah Penduduk (Jiwa)	712.166	724.553	724.553
4	Rasio TPS Terhadap Jumlah Penduduk	0,225	2,457	2,457

Source: Environmental Service Office of Serang City, 2023.

The data above shows that the capacity of waste disposal sites is very minimal. The TPS ratio in 2022 was only 0.225, and in 2023 it was only 2.457 per 100,000 people. This is due to the insufficient number of operational cleaning units available to manage waste relative to the city's area. Additionally, it is challenging to find land for waste disposal sites in densely populated districts.

Environmentally friendly waste management can have positive impacts on society and the environment. Effective waste management requires legal certainty, clear responsibilities and authorities of the government, and active community involvement. The Serang City Government continues to make various efforts to manage waste, including the waste bank program. The Waste Bank program is regulated under the Minister of Environment and Forestry Regulation Number 14 of 2021 on Waste Management in Waste Banks. This program follows the 3R principle (reduce, reuse, and recycle).



Reduce refers to efforts to decrease waste production in daily activities. Reuse refers to using old items without processing them first. Recycle refers to processing waste into other useful materials.

The Waste Bank program (Nurikah & Furqon, 2022) is a social engineering activity that teaches the community to sort waste and raises awareness about wise waste management. Waste Banks serve as a solution to reduce the amount of waste taken to the Final Processing Site (TPA). Building Waste Banks should be the initial momentum to foster collective awareness among the community to sort, recycle, and utilize waste, as waste has considerable economic value (Novianty, 2013). The waste management program through Waste Banks is one solution to improve the effectiveness of waste management and create collaboration in every waste management program implementation (Salsabila et al., 2021). In the Waste Bank Program, reduction efforts are carried out through reuse activities, while handling actions are taken through sorting, transporting, and/or processing waste. The type of reduction and handling activities is adjusted to the type of waste managed by the Waste Bank. Waste Bank managers have the freedom to determine waste management methods that match the capabilities and resources of the Waste Bank.

Table 3
Active Waste Banks in Serang City

No.	Waste Bank	Location	Amount of Waste (Kg/Month)	Number of Depositors
1	Alam Lestari	Lontar Baru	54	50
2	CIJE GREEN	Cikultur Jelawe, Serang Sub-district	200	30
3	CIS GREEN	Perumnas Ciracas, Serang Sub-district	50	35
4	BSB Berseri	KSB Complex, Kaligandu Sub-district	100	40
5	Karya Lestari 1	Kaliwadas Neighborhood RT 01/06, Lopang Sub-district	50	35
6	Karya Lestari 2	Kaliwadas Neighborhood RT 03/02, Lopang Sub-district	50	35
7	Karya Lestari 3	Kaliwadas Neighborhood RT 02/04, Lopang Sub-district	50	35
8	Barokah	RSS Pemda Complex, Cipocok	50	30
9	ANISA	Puri Serang Hijau Complex, Cipocok	50	30
10	Nusa Indah	Perempatan Village RT 01/01, Curug Sub-district, Curug District	50	30
11	Andalan	RT 02/06, Curug Sub-district, Curug District	50	30
12	Permata Mandiri	Safira Regency Complex, Sepang Sub-district, Taktakan District	80	30
13	MCI (Menuju Cimoyan Indah)	Cimoyan Neighborhood RW 04, Sepang Sub-district, Taktakan District	60	30
14	Basaki	Legok Dalam Neighborhood, Drangong Sub-district, Taktakan District	60	30
15	Insan Peduli	Karodangan Neighborhood RW 03	70	30
16	My Gold	Gelok RS Puri Gracia Neighborhood	150	40
17	Unyur Makmur	Unyur Neighborhood, Unyur Sub-district	400	67

Source: Environmental Service Office of Serang City, 2023.



The data in the table above shows the number of active waste banks in Serang City. This figure indicates the minimal community participation in the waste bank program. The low number of participants is due to the difficulty in changing the community's mindset to utilize waste as something with economic value. The low community participation as waste bank customers results in the waste bank's goals not being fully achieved. The goal of the Reduce, Reuse, Recycle (3R) program through waste banks is to reduce the volume of waste entering the Final Processing Site (TPA).

Several reasons for the lack of community participation include their preference for using the services of the Environmental Sanitation Operational Unit (Sokli). This is due to the limited time available to sort waste. When the community uses the Environmental Sanitation Operational Unit (Sokli), the waste is not sorted to become economically valuable but is directly transported by Sokli and disposed of at the TPA. Consequently, the amount of waste transported to the TPA does not decrease. Thus, without adequate participation in the waste bank program, efforts to reduce the volume of waste entering the TPA become less effective.

The community targeted by the waste bank program, which plays an important role, still tends to be indifferent towards waste management based on the 3R principles. This is due to the mindset that waste is something to be discarded and has no value. The heterogeneity and diverse social statuses in Serang City affect community participation in the waste bank, as seen from their low involvement. Many view collecting and sorting waste as akin to scavenging, leading to embarrassment about taking waste to the waste bank.

METHODS

The research approach is a series of methods or activities in a study that begins with problem formulation and ends with the conclusion. There are three types of research approaches: qualitative, quantitative, and mixed methods (Muhajirin et al., 2024).

The qualitative research method (Sugiyono, 2013) is based on post-positivism philosophy and is used to observe objects in their natural state, in contrast to experimental methods. In this approach, the researcher acts as the primary instrument, meaning that their observations, interpretations, and analysis play a central role in the data collection process. Data is gathered through triangulation techniques, which involve using multiple data sources, methods, or investigators to enhance the accuracy and reliability of the findings.

Data analysis in qualitative research is conducted inductively or qualitatively. This means that the researcher builds patterns, categories, and themes from the bottom up, allowing the data to guide the formation of broader insights and understanding. This approach contrasts with the deductive methods often used in quantitative research, where hypotheses are tested through statistical analysis.

The results of qualitative research focus more on meaning than generalization. Instead of aiming to apply findings broadly to larger populations, qualitative research seeks to provide deep, contextual insights into specific phenomena. This emphasis on meaning allows researchers to explore complex interactions and social processes in detail, capturing the richness and diversity of human experiences.

In practical terms, the qualitative research method involves various data collection techniques such as interviews, observations, and document analysis. The researcher immerses themselves in the field to gather detailed, nuanced information. Through careful analysis, they interpret and describe the underlying patterns and themes that emerge from the data, providing a comprehensive understanding of the studied subject.

Overall, the qualitative approach is particularly well-suited for exploring new or complex research areas where little is known, understanding social processes, and capturing the perspectives and experiences of participants. It offers a flexible and adaptive framework that allows researchers to delve



deeply into their topics, producing rich, detailed findings that contribute to a deeper understanding of the studied phenomena.

RESULTS AND DISCUSSION

Results

Policy implementation is essentially a way to ensure that the policy achieves its intended goals accurately. There are two general steps in implementing public policy: directly executing programs or formulating derivative policies from the main policy. Public policies manifested in the form of laws or regional regulations often require further elaboration or implementing regulations to be effectively enforced.

In the policy implementation process, four factors must be considered, according to Smith (Tachjan, 2006). These four factors interact and influence each other, creating tensions that can lead to protests or physical actions. To achieve policy goals, the formation of new organizations is often necessary. These tensions can result in changes in existing organizations. Consequently, discrepancies, conflicts, and pressures can arise from the interaction of the four policy implementation variables. It is possible that these patterns lead to the formation of specific institutions and serve as feedback to reduce tension. These patterns are then reintegrated into institutional and transactional patterns.

Smith's model in examining the policy implementation process focuses on the perspective of social and political change. This model considers that policies made by the government aim to bring about improvement or change in society as the target group. Regarding Public Policy Implementation, Smith (Prmono, 2020) explains four essential elements: idealized policy, target groups, implementing organization, and environmental factors.

These four components are crucial and interdependent in achieving policy goals. This four-component model can be used to understand how public policy implementation works.

1. Idealized policy: Intended to encourage, influence, and motivate the target group to implement it.
2. Target groups: These are stakeholders expected to adopt the desired interaction patterns by the policymakers. As the target of policy implementation, they are expected to adjust their behavior to the formulated policy.
3. Implementing organization: The executing body responsible for implementing the policy.
4. Environmental factors: These are the cultural, social, economic, and political elements that influence policy implementation.

These factors affect how the target group and implementing organization receive and implement the policy. According to Smith's model, the success of policy implementation heavily depends on how these four factors interact and influence each other. The likelihood of achieving the established policy goals increases with a good relationship between the idealized policy, target group, implementing organization, and environmental factors.

Idealized Policy

According to Smith (Tololiu et al., 2018), the main factor influencing public policy implementation is the idealized policy. This factor includes the interaction patterns desired or planned by policymakers to encourage, influence, and motivate the target group to implement the policy. The goal of these interaction patterns is to encourage, influence, and stimulate the target group to carry out the policy. There are two main aspects included in this factor:



1. Communication:

This aspect involves effective communication between policymakers and policy implementers. Good communication ensures that the goals, benefits, and implementation methods of the policy are clearly understood by all involved parties (Cyrious & Adriana, 2023). The research results show that this dimension of idealized policy has been attempted by the Environmental Service and the Waste Bank Organization in Serang City in implementing the waste bank policy, but its implementation has not been optimal. This is evident from the socialization and training activities conducted by the waste bank organization for the surrounding community. However, the training and counseling implementation has not been optimal due to the insufficient number of Waste Bank employees, so the existing field officers cannot reach the entire community. This is reinforced by Mr. Agus, the manager of Unyur Makmur Waste Bank, who stated that communication between the Environmental Service implementers and Waste Bank managers is still not optimal, with a lack of support and needed tools such as plastic shredders and scales for waste.

2. Coordination:

This aspect includes coordination between parties involved in policy implementation. Good coordination helps ensure that all parties work synergistically and efficiently so that policy goals can be optimally achieved (Shofiyah et al., 2023). Waste Bank managers in Serang City interact with related parties, such as the Environmental Service, sub-district government, and village government, to encourage, influence, and stimulate waste bank customers in implementing the waste bank program policy. This interaction includes coordination in guidance, counseling, data collection, registration, and waste processing. The collaboration has proven effective with the existence of the Waste Bank Program in Serang Sub-district as the Main Waste Bank and the Waste Bank in Taktakan Sub-district, providing benefits to local residents.

This research is supported by the findings (Sunyata & Patriani, 2019), which show that the success factors in implementing the waste bank program can be seen from the aspect of Idealized Policy. This concept states that successful implementation is marked by the presence of an ideal interaction pattern, a form or way of interaction considered suitable or appropriate, then represented in a policy for further implementation.

Target Groups

According to Smith (Tololiu et al., 2018), the second dimension in the policy implementation model is the target group. The target group is part of the policy stakeholders expected to adopt the desired interaction patterns by the policymakers. They are the focus of policy implementation and are expected to adjust their behavior patterns according to the formulated policy. The success of policy implementation heavily depends on the response or responsibility of the target group. If the target group can accept and implement the policy without protest, the policy is considered successful. In other words, the success of policy implementation is measured by how well the target group can adapt to the imposed policy.

Table 4
Comparison of Population and Number of Waste Bank Customers

No.	Village	Population	Number of Waste Bank Customers
1.	Serang	29.173	65



2.	Lopang	16.028	105
3.	Unyur	39.284	67
4.	Kaligandu	20.876	40
5.	Drangong	29.873	40

Source: Environmental Service Office, 2024.

The data in the table above shows the population of villages and the number of waste bank customers in Serang City. This figure highlights the minimal community participation in the waste bank program. The low number of customers is due to the difficulty in changing the community's mindset to utilize waste as something with economic value. The low community participation as waste bank customers results in the waste bank's goals not being fully achieved. The low participation is also due to the lack of community awareness in sorting waste into useful value.

In this case, the My Gold Waste Bank program in Drangong Village has consistently implemented the established waste bank policy. However, there are still people who do not contribute to the program because they are ashamed or unaware of the value of waste.

In contrast, the Unyur Makmur Waste Bank has a considerable number of customers, reaching 67. The Unyur Makmur Waste Bank has also applied for certification to increase the sale value of waste. Additionally, Unyur Makmur provides business capital and educational funds for its customers. Meanwhile, the Digital Waste Bank Program, the main waste bank in Serang City, has expanded significantly and increased its customer base, even reaching Cilegon City.

The diversity of social and economic backgrounds among the community results in varied understanding and awareness of the waste bank program. Some residents in Taktakan sub-district have not been involved because they feel ashamed or do not recognize the economic value of waste. Different levels of education and environmental awareness also affect the response of the target groups. The Unyur Makmur Waste Bank, with 67 customers, has worked to increase the sale value of waste through certification and offers business and educational capital. Accessibility and ease of participation are also important factors. The Digital Waste Bank in Serang City has reached customers in Cilegon, demonstrating that ease of access and a broad network influence community participation.

Key success factors include acceptance and adaptation of the target groups to the policy. The Unyur Makmur Waste Bank shows good acceptance with a significant number of customers and additional initiatives. Active community involvement and participation are crucial. The lack of involvement in Taktakan sub-district shows that barriers still need to be overcome through education and outreach. Providing incentives or rewards can increase motivation and involvement, as seen in Unyur Makmur Waste Bank's offering of business capital and education. The ease of process and access to information also affects participation, as evidenced by the Digital Waste Bank's reach beyond the city.

Strategies to increase participation include enhancing education and outreach to raise knowledge and awareness. Developing more attractive incentives, such as awards, business capital, and educational scholarships. Collaborating with local institutions to expand program reach and increase community involvement. Utilizing technology to facilitate access and community participation.

This research is supported by findings (Sunyata & Patriani, 2019) showing that the success factors of the waste bank program implementation can be seen from the target group aspect. The target groups in policy implementation have a significant influence on achieving the policy's goals because they can accept or reject the applied policy.



Implementing Organization

The Implementing Organization refers to the bodies or organizational units responsible for policy implementation. This is the third dimension that influences the success of policy implementation. These implementing organizations play a crucial role in executing the formulated policy. The success of implementation heavily relies on the effectiveness and efficiency of these organizations in carrying out their tasks.

Table 5

Number of Waste Bank Implementers	
Waste Bank	Number of Implementers
My Gold	4
Unyur Makmur	6
Digital (Bank Sampah Induk)	50

Source: Data Processing Results, 2024.

The table above shows the number of implementers in each waste bank, highlighting the insufficient number of implementers at the three waste banks, resulting in suboptimal implementation due to limited human resources. This issue should be addressed by the local government and the Environmental Service Office to increase the number of implementers at each waste bank location.

In implementing the waste bank program, the Environmental Service Office is responsible for data collection, registration, and the establishment of waste banks in each district. This research evaluates the Implementing Organization dimension based on the organizational unit's capability to implement policies and the consistency and discipline of the unit in executing the waste bank policies. The results show that the organizational units handling the waste bank program in Serang City are not optimal due to a lack of personnel and field officers, as well as inadequate facilities and resources. Although the consistency and discipline of employees in implementing waste bank policies are good, the shortage of personnel hinders the full implementation of the policies. This indicates that the suboptimal success of the waste bank policy implementation in Minahasa is partly due to the inefficiency of the organizational units responsible for executing the policies.

This research is supported by findings (Sunyata & Patriani, 2019), which show that the success factors of the waste bank program implementation can be seen from the aspect of the Implementing Organization. Public policies that have been formulated require administrators or bureaucrats who are responsible for carrying out their duties and functions. These policies will not be meaningful without concrete actions from the implementers. Therefore, the role of administrators in policy implementation has a significant impact on achieving the goals of the waste bank program.

Environmental Factors

In Smith's policy implementation model, the last dimension to be considered is external environmental factors, which include cultural, social, economic, and political aspects. An unsupportive or non-conducive environment can be a source of problems that potentially lead to policy implementation failure. Therefore, the success of policy implementation is greatly influenced by supportive external environmental conditions. External environmental factors significantly affect how policies are accepted, implemented, and sustained by various stakeholders. Cultural, social, economic, and political aspects can influence the dynamics of policy implementation and the desired outcomes. Therefore, it is crucial for implementers to consider these factors.

Research indicates that the cultural and social environment has not fully supported the implementation of the waste bank program policy. Waste management culture has not been entirely



adopted by the community, resulting in unmanaged waste. The level of community awareness in managing waste is still low, reflecting social conditions that do not fully support the success of the waste bank program. However, the economic condition of the community is a supporting factor for the implementation of this policy, as many people view the waste bank program as a source of additional income and daily earnings. This is evidenced by the savings for educational and business capital accumulated through waste management by the Unyur Makmur and My Gold waste banks.

On the other hand, the research shows that the economic condition of the community plays an important role in supporting the success of the waste bank program. Many people see the waste bank program as an added value and a source of daily income. Concrete examples from the Unyur Makmur and My Gold waste banks, which have successfully accumulated savings for educational and business capital through waste management, demonstrate the positive impact of the economic aspect on the implementation of the waste bank program policy.

This research is supported by findings (Sunyata & Patriani, 2019), which show that the success factors of the waste bank program implementation can be seen from the aspect of Environmental Factors. This concept states that social factors are among the factors influencing the success of a policy. In policy implementation, environmental elements also play a crucial role as support from the environment is needed to achieve the policy implementation goals.

Discussion

The implementation of the waste bank program in Serang City presents a multifaceted challenge that involves both structural and cultural dimensions. The data indicates a significant disparity between the number of waste bank customers and the total population in various districts, underscoring a critical issue in community participation and engagement. This disparity can be attributed to several underlying factors, including the community's mindset towards waste management, the adequacy of resources allocated for the program, and the effectiveness of the implementing organizations.

Community Mindset and Participation

One of the primary challenges identified in the implementation of the waste bank program is the community's mindset towards waste and waste management. Despite the potential economic benefits of sorting and recycling waste, there remains a pervasive cultural perception of waste as something to be discarded rather than a resource to be utilized. This cultural barrier is compounded by social stigma, where activities related to waste management are often viewed as low-status jobs, akin to scavenging. Consequently, many community members feel embarrassed or disinterested in participating in the waste bank program, leading to low enrollment numbers as highlighted by the population-to-customer ratios in Table 4.

Efforts to shift this mindset are evident in the initiatives taken by waste banks like Unyur Makmur and My Gold, which have introduced certification to increase the sale value of sorted waste and have provided business and educational capital from waste management activities. These measures aim to demonstrate the tangible benefits of waste sorting and recycling, thereby encouraging broader participation. However, these initiatives have not yet reached a critical mass of acceptance across all districts, indicating the need for more robust community engagement and educational programs.



Resources Allocation and Implementing Organization

The success of the waste bank program is also closely tied to the adequacy of resources allocated to the program. As Table 5 indicates, the number of implementers in each waste bank is insufficient, with only 4 to 6 implementers in some banks and 50 in the main waste bank. This shortage of human resources hampers the effectiveness of the program's implementation. The Environmental Service Office, responsible for overseeing the waste bank program, faces significant challenges in scaling its operations to meet the needs of Serang City's diverse and growing population.

The lack of personnel and inadequate facilities further complicate efforts to manage waste efficiently. While the dedication and consistency of existing staff are commendable, the scale of the task requires a larger workforce and better logistical support. The Environmental Service Office must address these gaps by hiring more staff, enhancing training programs, and improving the infrastructure necessary for effective waste management.

Environmental Factors

External environmental factors, including cultural, social, economic, and political elements, play a critical role in the successful implementation of the waste bank program. The current cultural and social environment in Serang City does not fully support the principles of waste sorting and recycling. As noted, there is a need for a cultural shift that redefines waste management activities as valuable and respectable.

Economic conditions, however, provide a more supportive backdrop for the program. Many community members see the economic potential in participating in the waste bank program, as evidenced by the success stories from Unyur Makmur and My Gold waste banks. These banks have successfully utilized the economic incentives of waste management to gather savings for educational and business purposes, showcasing the program's potential to contribute to financial wellbeing.

Strategic Recommendations

To enhance the implementation and effectiveness of the waste bank program in Serang City, several strategic recommendations can be made. Firstly, there needs to be a concerted effort to increase community education and outreach programs to shift cultural perceptions and increase participation. Educational campaigns should emphasize the economic benefits and environmental importance of waste sorting and recycling.

Secondly, improving the resource allocation to the waste bank program is crucial. This involves hiring more staff, providing adequate training, and investing in the necessary infrastructure to support waste management activities. Enhanced coordination between the Environmental Service Office and waste banks can ensure that resources are utilized efficiently and effectively.

Finally, leveraging technology to facilitate community engagement and streamline operations can significantly enhance the program's reach and efficiency. Digital platforms can be used to register participants, track waste contributions, and provide real-time updates on the program's impact. By addressing these strategic areas, Serang City can make substantial progress in achieving its waste management goals, contributing to a cleaner and more sustainable urban environment.

CONCLUSION

Conclusion

Based on the research on the implementation of the Waste Bank program in Serang City, it can be concluded that despite the efforts made, several challenges need to be addressed to enhance the program's effectiveness. One of the main obstacles is the low level of community participation in the



Waste Bank program. Although various socialization and training activities have been conducted, community participation in sorting and recycling waste remains very minimal. This indicates that there is still a need for increased awareness and education about the importance of proper waste management.

Additionally, the insufficient number of personnel or field officers poses a barrier to the implementation of the Waste Bank program. With an inadequate number of personnel, efforts to reach all community layers and areas in Serang City are limited. Therefore, there is a need for an adequate increase in personnel to ensure the program runs efficiently and effectively.

In the context of policy implementation for the waste bank program, the research highlights that the current cultural and social environment does not fully support these efforts. The culture of waste management has not been fully adopted by the community, which remains one of the main barriers, leading to unmanaged waste being left untreated. The low level of awareness among some community members also indicates social conditions that do not fully support the successful implementation of the waste bank program policy.

The lack of facilities is also one of the issues in the implementation of the Waste Bank program. Inadequate facilities, such as storage and waste processing areas, can hinder the smooth operation of the program and reduce its effectiveness. Therefore, there is a need for improved infrastructure and supporting facilities to ensure the smooth implementation of the Waste Bank program.

Recommendations

Based on the findings of this research, the author recommends several strategies to enhance the effectiveness of the Waste Bank program:

1. Intensify educational campaigns to raise awareness about waste management through the Waste Bank program. Collaboration with local communities and educational institutions can help boost community participation.
2. Increase the number of personnel involved in the Waste Bank program and provide adequate training. Training on waste management, waste bank operations, and marketing of recycled products can improve service quality.
3. Invest in upgrading facilities and infrastructure that support the Waste Bank program. Providing adequate waste storage areas, processing facilities, and transportation means can enhance the program's efficiency.

Furthermore, it is essential to expand the reach of the Waste Bank program to various community layers and regions. With broader inclusion, the program can offer more equitable and significant benefits to the community, especially in waste management, environmental education, and economic empowerment. Education plays a crucial role in increasing understanding and awareness of the importance of proper waste management. Structured and sustainable educational programs can shape positive attitudes and behaviors towards the environment, motivating the community to actively participate in the Waste Bank program.

Additionally, the utilization of technology and innovation in waste management can expedite the success of the Waste Bank program. The development of mobile applications, information systems, and environmentally friendly waste processing technologies can enhance the overall efficiency and effectiveness of the program. With strong commitment, synergistic cooperation, targeted education, and appropriate use of technology, the implementation of the Waste Bank program can achieve more optimal and sustainable results in maintaining environmental cleanliness, improving social welfare, and supporting the economic growth of the community.



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