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### Strategy Communication Service Environment Life City Tangerang in Management Rubbish

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#### Abstract

This study was conducted to address the problem of waste management in Tangerang City, where the community lacks awareness and concern for environmental cleanliness. The aim of this research is to identify the communication strategy used by the Tangerang City Environmental Agency in waste management. The research method used in this study is qualitative, with data collection techniques through interviews, observations, and documentation. Data analysis was conducted using Miles and Huberman's technique and data validity was tested using source triangulation. The

theory used in this research refers to Onong Uchjana Effendy's Communication Strategy Theory. The results showed that the communication strategy used by the Tangerang City Environmental Agency was carried out through socialization and training activities in five stages, namely planning, objectives, socialization activities, messages, and media. These stages were carried out with the aim of achieving the target of reducing waste by 30% and handling waste by 70% in 2025.

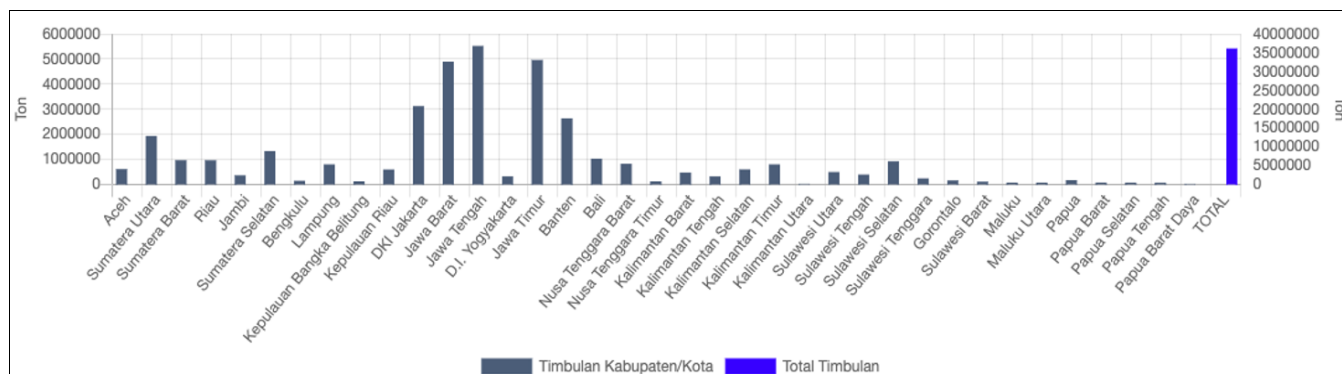
**Keywords:** Communications Strategy, Waste Management, Tangerang City, Media

#### Introduction

The waste problem is an escalating global issue with detrimental impacts on both the environment and human health. According to research conducted by Sandra, waste problems can lead to air and soil pollution, potentially causing various diseases (Aparcana, 2017) <sup>[4]</sup>. Furthermore, an increase in waste production, coupled with inadequate waste management practices, can contribute to climate change (Debrah *et al.*, 2021) <sup>[11]</sup>. Waste-related issues also have repercussions on water quality, posing health risks to humans (Sivarethinamohan *et al.*, 2021) <sup>[35]</sup>.

The World Health Organization emphasizes that poor waste management has negative consequences, including the spread of diseases, water and air pollution, and enduring impacts on human health and the environment. One proposed solution is to enhance waste management by increasing public awareness and encouraging participation in recycling programs and sustainable waste management practices (UNICEF, 2018) <sup>[38]</sup>.

According to data from the Ministry of Environment and Forestry, Indonesia generated approximately 65.1 million tons of waste in 2021, averaging 177,945 tons per day. Households accounted for 54.3% of this waste, the non-household sector contributed 29.7%, and the industrial sector contributed 16%. Regrettably, only about 10% of this waste has undergone proper processing, while the remainder finds its way to landfills or even permeates the surrounding environment (MLKH 2021). Hence, the implementation of effective waste management is crucial for preserving environmental and community health, as well as mitigating the adverse impacts of climate change.



Source: <https://sipsn.menlhk.go.id/sipsn/public/data/timbulan>

Fig 1: Waste generation by province

Observing Fig 1, it is evident that Java Island is the predominant contributor, with Banten holding the fifth position. This information is corroborated by SIPSN (*SIPSN - National Waste Management Information System, 2023*)<sup>[34]</sup>. Banten's fifth-place ranking in waste management, as per SIPSN 2023<sup>[34]</sup>, may suggest suboptimal efforts in waste management within the province. Potential factors influencing this ranking could encompass the state of waste management infrastructure, recycling policies, community engagement, and the effectiveness of waste collection and management systems.

Involving the community in waste management efforts is an effective step, which includes educating and communicating the importance of waste sorting in households. This approach aims to raise awareness and promote responsible waste management. A communication strategy, as defined by (Miller, 2015)<sup>[25]</sup>, is a systematic plan designed to influence or change the views, attitudes, or behavior of individuals or groups through communication. It comprises logical steps intended to achieve specific goals. According to McQuail, a communication strategy is an effort to attain particular objectives by utilizing communication to influence perceptions, knowledge, attitudes, and behavior (McQuail, 2010)<sup>[24]</sup>.

Table 1: Total waste generation based on Banten region

Year	Province	Regency/City	Daily waste generation (tons)	Annual waste generation (tons)
2022	Banten	Regency. Lebak	591.47	215,885.24
2022	Banten	Regency. Tangerang	2,305.47	841,497.68
2022	Banten	Cilegon City	227.86	83,169.08
2022	Banten	Serang City	584.83	213,464.02
2022	Banten	South Tangerang City	972.63	355,009.43
2022	Banten	Regency. attack	1,135.84	414,581.97
2022	Banten	Tangerang City	1,381.53	504,258.12

Source: <https://sipsn.menlhk.go.id/sipsn/public/data/timbulan>

The Banten Region is divided into seven regions, comprising cities and districts. When examining Tangerang's data, Tangerang Regency holds the first position, followed by Tangerang City in second place and South Tangerang City in third place (*SIPSN - National Waste Management Information System, 2023*)<sup>[34]</sup>. Addressing waste-related challenges can be achieved through the 3R approach (reduce, reuse, recycle) and the reinforcement of waste management policies (Cadillo-Benalcazar *et al.*, 2020)<sup>[8]</sup>. Implementing waste processing

technologies, such as biomass technology and composting, stands out as an effective solution to tackle waste problems (Paduloh *et al.*, 2022)<sup>[27]</sup>. Additionally, active community participation in waste management can significantly reduce waste generation (Suryani, 2014)<sup>[37]</sup>.

Therefore, resolving waste issues necessitates collaboration among the government, society, and industry players to strengthen waste management policies and implement environmentally friendly waste processing technologies. Waste management encompasses a series of planned and systematic activities, including collection, transportation, processing, and disposal of waste (Gibellini *et al.*, 2022)<sup>[16]</sup>. The primary waste issue in Tangerang City is the widespread disposal of waste without proper care, leading to unpleasant odors and adverse effects on the environment and public health. This mismanagement has resulted in a significant accumulation of waste at the overloaded Cipeucang landfill. According to data from the Tangerang City Environmental Service, the Cipeucang landfill has reached 70% of its capacity. Therefore, proactive measures, such as community outreach and guidance on waste sorting at the source, along with the implementation of technologies like shredding and composting machines, are essential to diminish waste volume and address the waste problem in Tangerang City (*DLH | Tangerang City, nd*)<sup>[12]</sup>.

Communication, defined as the process through which information about innovation is conveyed to the public, can take place through various channels such as mass media, interpersonal interactions, or marketing campaigns (Effendy, 2011a)<sup>[13]</sup>. The Tangerang City Environmental Service, being responsible for waste management, needs to employ effective communication strategies to garner community support for proper waste management. Waste management, as an integrated and sustainable effort, aims to minimize the negative impact of waste on health and the environment (Haghighatjoo *et al.*, 2020)<sup>[20]</sup>. This research is crucial in evaluating the effectiveness of the communication strategy implemented by the Tangerang City Environmental Service in increasing community participation and mitigating waste problems. Additionally, the study can provide valuable input and recommendations for future communication strategies to enhance waste management more effectively.

Waste management comprises the collection, transportation, processing, and disposal of waste in a planned and systematic manner, with the goal of preventing negative impacts on the environment and public health (Gibellini *et al.*, 2022)<sup>[16]</sup>. This comprehensive effort aims to minimize the adverse effects of waste on health and the environment through integrated and sustainable actions (Haghighatjoo *et*

*al.*, 2020) [20]. Waste management as all activities geared towards reducing, collecting, processing, and disposing of waste to mitigate negative impacts on health and the environment (Setiawan *et al.*, 2023) [32].

Waste management in Tangerang City is a critical issue, especially given the continuous increase in the population. Effective and proper waste management is essential for maintaining a clean and healthy environment. As emphasized by Prihatin, achieving efficient waste management requires active participation from all stakeholders, including the community and businesses generating waste (Prihatin, 2020) [30]. This participation is crucial for fostering awareness and shared responsibility in waste management. These findings align with the results of a study by Sari, indicating that community involvement enhances the effectiveness and efficiency of waste management (Astikasari *et al.*, 2022) [5]. Therefore, ongoing efforts to encourage and enhance collaboration and participation from various parties are necessary for achieving improved and sustainable waste management.

The research aims to analyze the communication strategies implemented by the Tangerang City Environmental Service in waste management and assess their effectiveness in enhancing public awareness and participation in waste management. Conducting this research is crucial as effective communication strategies play a pivotal role in influencing people's behavior regarding waste management. The study aims to offer a deeper understanding of the significance of communication strategies in waste management and intends to provide recommendations for enhancing the effectiveness of the communication strategies employed by the Tangerang City Environmental Service.

### Research methods

This research adopts a qualitative approach to gather comprehensive information by analyzing verbally presented data. The primary focus of the study is the communication strategy employed by the Tangerang City Environmental Service in waste management. The research explores key aspects, including identifying communicators, target audiences, message delivery strategies, media selection, and the responses elicited by these strategies. The research subjects include Tangerang City employees and residents actively involved in waste management communication activities. Purposive sampling was utilized, specifically targeting individuals associated with the Tangerang City Environmental Service. Data collection involved a combination of observation, interviews, and documentation. The Miles and Huberman model serves as the framework for data analysis in this research.

### Research Results and Discussion

In its waste management efforts, the Tangerang City Environmental Service has implemented a multifaceted strategy aimed at providing community services through coaching, outreach, and a door-to-door organic waste pick-up service. Additionally, the waste management approach includes reduction and handling, along with the processing of organic waste into compost, promoting reuse through waste banks. The Environmental Service also monitors nearby polling stations to assess waste conditions. Understanding the various types of organic and inorganic waste and recognizing the community's role in waste management are integral components of this strategy.

Effendy's theory serves as a foundation for the Tangerang City Environmental Service's communication strategy, incorporating five essential elements: planning, goals, activities, messages, and media (Effendy, 2011b) [14]. The overarching objective of this strategy is to educate the public on proper and effective waste management practices while minimizing the indiscriminate disposal of waste. By applying Effendy's theory, the Tangerang City Environmental Service aims to design communication strategies that effectively educate the public about correct waste management practices (Effendy, 2011b) [14].

### A. Planning

In the realm of waste management, the Tangerang City Environmental Service (DLH) assumes a pivotal role by actively engaging in the socialization and provision of guidance on effective waste management within the community. The primary objective of involving communities in waste management planning is to enhance their participation in waste management programs and attain ambitious waste reduction targets. Recognizing the indispensable role of community involvement in the effectiveness of waste management programs, DLH has undertaken initiatives to guide residents on adopting effective waste management practices (Brotosusilo *et al.*, 2020) [7].

The planning phase, as the initial stage in waste management, holds paramount importance in achieving success. DLH, in its commitment to waste reduction and handling, employs communication strategies while adhering to existing regulations and strategic plans within the City of Tangerang. This includes activities such as identifying potential waste generation sources, collecting comprehensive waste management data, preparing waste management balance sheets, fostering community development, and setting an ambitious waste reduction target of 30% by 2025, with a focus on achieving a 70% handling rate. These strategic measures underscore DLH's dedication to effective waste management and sustainable practices in Tangerang City.

In waste management planning, the strategy involves the identification of potential waste generation, a crucial step that aids in determining the necessary size of waste management facilities, estimating costs, and formulating effective waste reduction programs (Jagaba *et al.*, 2021) [22]. Additionally, comprehensive data collection on waste sources and characteristics is integral to the planning process. This data enables the selection of appropriate waste management technology, the calculation of operating and maintenance costs, and the evaluation of the effectiveness of waste management programs (Shekdar, 2009) [33].

Community involvement and the establishment of ambitious waste reduction targets are vital components for the success of waste management programs. Educating and involving the public in waste management practices can significantly increase participation and cooperation in achieving waste reduction goals. Moreover, preparing a waste management balance sheet is an essential aspect of planning. This balance sheet aids in determining effective waste management policies, identifying gaps in the waste management system, and developing suitable waste reduction strategies (Gibellini *et al.*, 2022; Grangxabe *et al.*, 2023) [16, 18]. These planning strategies collectively contribute to the development of comprehensive and effective waste management programs.

Despite the smooth progress in planning to achieve the goals of the Environmental Service (DLH), there are persistent challenges within the community, where a lack of familiarity with waste management hampers the effectiveness of waste handling and reduction efforts. Additionally, the low level of waste collection services is attributed to inadequate facilities and infrastructure, including a shortage of waste transport fleets. To address this, there is a pressing need to enhance these facilities, particularly by acquiring an adequate waste transport fleet. This improvement is anticipated to diminish the volume of organic waste reaching the final disposal site (TPA), thus optimizing waste management in Tangerang City. In response to these challenges, the planning strategy of Tangerang City DLH aims to influence the behavior of individuals who show less concern for waste management. The objective is to foster a greater appreciation for environmental cleanliness among the populace and encourage the reuse or recycling of waste within their surroundings. This behavioral change is fundamental to achieving more effective waste management practices and realizing a cleaner and more sustainable environment in Tangerang City.

### B. Objective

(Aboramadan, 2022) <sup>[1]</sup> Clearly defined goals in communication contribute to the success of interactions among individuals and groups. The Environmental Service in the city of Tangerang has established objectives centered around altering people's behavior through the promotion of waste management programs and heightened awareness of environmental cleanliness. Another goal is to enhance the efficiency of waste management by reducing waste volume and improving the handling system (Renn, 2010) <sup>[31]</sup>. The promotion of waste management programs and environmental awareness has the potential to influence people's disposal behavior positively. Participation in such programs can increase environmental consciousness, prompting individuals to adopt more eco-friendly waste disposal habits (May *et al.*, 2016). Additionally, the overarching goal is to transform waste into economically valuable products, benefiting both the community and the Environmental Service.

While the Tangerang City Environmental Service claims success in achieving effective waste management goals, there are ongoing concerns evidenced by reports of accumulating rubbish. This discrepancy suggests that despite the reported achievements, there are challenges that need to be addressed to ensure effective waste management in Tangerang City. To tackle this, the Environmental Service can leverage proven waste reduction strategies, particularly by involving the community. The success of waste management is contingent on community participation and supportive government policies (Aparcana, 2017) <sup>[4]</sup>.

### C. Activity

Social activities serve as a symbolic form of communication, facilitating the construction of identity and social relationships for individuals (Beck *et al.*, 2014) <sup>[6]</sup>. The Environmental Service of Tangerang City, DLH, engages in coaching and training activities, which play a pivotal role in enhancing human resource capabilities and skills. Within these activities, socialization or counseling is

a crucial component, contributing significantly to increasing public knowledge and awareness regarding environmental issues. Socialization not only informs but also motivates individuals to take tangible actions in environmental protection (Gifford & Nilsson, 2014) <sup>[17]</sup>.

Through the socialization efforts of the Tangerang City Environmental Service, the public becomes more conscious of the importance of waste management and the significance of maintaining a clean environment. This highlights the vital role of socialization in enhancing environmental quality and public awareness (Prasetyo *et al.*, 2019) <sup>[29]</sup>. Therefore, it is imperative that the outreach program conducted by DLH Tangerang City continues to be refined and made more effective, aiming to further elevate public awareness about the importance of cleanliness and environmental preservation.

In an endeavor to heighten public awareness regarding the significance of environmental conservation, Tangerang City DLH conducts outreach activities in the form of guidance and training. This aligns with research by Prasetyo *et al.* (2019) <sup>[29]</sup>, which demonstrates that coaching and training are effective methods for enhancing people's environmental knowledge (Prasetyo *et al.*, 2019) <sup>[29]</sup>. Additionally, Aboramadan suggest that coaching and training can serve as a motivator for individuals to adopt more environmentally friendly behaviors (Aboramadan, 2022) <sup>[1]</sup>. Thus, the outreach activities, particularly in the form of guidance and training, undertaken by DLH Tangerang City are crucial for creating public awareness and fostering behavioral changes in environmental protection.

To amplify public awareness about the importance of waste management, Tangerang City DLH conducts outreach activities that involve the local community and provides early guidance through the Adiwiyata program in schools. Haryati's study supports this approach, indicating that outreach and coaching activities can enhance public knowledge and awareness about waste management (Haryati *et al.*, 2022) <sup>[21]</sup>. Moreover, DLH conducts presentations and disseminates materials about waste management to the public, aiming to influence behavioral changes in waste management practices. Learning through presentations and provided materials can significantly impact behavior in waste management. By engaging in outreach and coaching initiatives, Tangerang City DLH aspires to bolster community participation in waste management and achieve the objectives of an effective and sustainable waste management program (Chammas *et al.*, 2020) <sup>[10]</sup>.

Despite the various methods employed in the socialization program conducted by DLH Tangerang City, such as coaching, training, and community involvement, there are still challenges in its implementation. Notably, there is minimal participation from young people, indicating a general lack of concern among this demographic for environmental issues (Ojala, 2012) <sup>[26]</sup>. Additionally, many individuals have not yet adopted the habit of sorting waste and remain indifferent to waste management practices, hindering the effectiveness and optimization of the waste management program's objectives.

To address these challenges, there is a pressing need for a more integrated and comprehensive effort in the socialization program. This approach aims to enhance community participation, particularly among young people, in waste management initiatives (Stylinski *et al.*, 2018) <sup>[36]</sup>.

By considering the insights from research and adapting strategies to better engage various demographic groups, the socialization program can be strengthened, fostering a more widespread and lasting impact on waste management practices within the community.

#### D. Message

Messages indeed play a pivotal role in the communication process, influencing recipients' perceptions and fostering openness to conveyed ideas or information (Gallivan & Keil, 2003) <sup>[15]</sup>. Recognizing the importance of effective waste management in reducing negative environmental impacts (Guerrero *et al.*, 2013) <sup>[19]</sup>, the Environmental Service (DLH) in Tangerang City strategically delivers important and useful messages to enhance public awareness of waste management.

DLH's messages emphasize the significance of proper waste management practices, aiming to educate the community on managing organic waste through composting and sorting inorganic waste for deposit in waste banks. This strategic communication initiative seeks to ensure community participation and support in waste management efforts within Tangerang City. The overarching goal aligns with DLH Tangerang City's Vision and Mission to create a clean, healthy, and environmentally friendly environment (DLH Tangerang City, 2023).

DLH employs crucial messages in its waste management programs, emphasizing the impact of waste and offering practical solutions to reduce it. These messages encompass an explanation of waste management principles and include training sessions on managing organic waste through composting. Additionally, the community is directly instructed on how to properly sort waste for potential reuse. Recognizing the pivotal role of the community in waste management, DLH advocates for a training program designed to enhance skills and knowledge in waste management practices. This initiative aligns with the findings of Anwar *et al.* (2019) <sup>[3]</sup>, underscoring the importance of community involvement and suggesting that skill-building programs can contribute to mitigating the negative impacts associated with waste management (Anwar *et al.*, 2019) <sup>[3]</sup>. By providing comprehensive training and hands-on guidance, DLH aims to empower the community with the tools and knowledge needed to actively engage in waste reduction efforts, fostering a sense of responsibility and contributing to a more sustainable and environmentally friendly community.

The waste management program implemented by the Environmental Service (DLH) in Tangerang City not only highlights the negative impacts of waste but also presents tangible solutions to address and reduce these issues. For instance, the community undergoes training on converting organic waste into compost and is educated on the proper sorting of inorganic waste that can be recycled, encouraging its deposit in waste banks. This multifaceted program aims to raise awareness among people about the health hazards posed by accumulated waste in their environment and encourages the more judicious use of existing waste resources (Polprasert, 2007) <sup>[28]</sup>.

By providing practical solutions and promoting responsible waste management practices, this program seeks to foster a greater understanding of the importance of cleanliness and environmental stewardship among the public. Such initiatives have the potential to enhance environmental

quality and contribute to a more sustainable and ecologically conscious community, aligning with the findings and recommendations of (Debrah *et al.*, 2021; Guerrero *et al.*, 2013) <sup>[11, 19]</sup>.

#### E. Media

Media and online news platforms have emerged as primary sources of information for a significant portion of the population. These platforms are acknowledged not only as information sources but also as tools for communication and social relationship building. The Tangerang City Environmental Service strategically employs various internal media to execute work programs in alignment with its vision and mission. DLH conducts direct coaching outreach utilizing projectors and slide media to present images, videos, and socialization materials. In addition to these methods, DLH also leverages online media platforms, including its website, Instagram, and YouTube (Canale *et al.*, 2020) <sup>[9]</sup>.

In the media utilized by the Tangerang City Environmental Service for more effective outreach and coaching, direct communication is emphasized. Face-to-face communication is recognized for its potential to facilitate the development of stronger interpersonal relationships, enhance decision-making quality, and enable more effective and efficient exchange of information (Abrams *et al.*, 2003) <sup>[2]</sup>.

DLH Tangerang City has specifically chosen to utilize direct socialization media, engaging with the community in person to deliver effective messages and offer training on waste management. This approach aims to ensure that the public can easily comprehend and actively participate in effective and appropriate waste management practices. Through these efforts, DLH Tangerang City contributes to increasing public awareness and minimizing the negative impact of waste management on the environment.

The waste management strategy implemented by DLH Tangerang City is not only advantageous for the department but also for the community. By encouraging public participation in waste handling at the source through waste sorting, DLH aims to manage waste more efficiently at final disposal sites. Additionally, effective waste management positively impacts the health and aesthetics of the surrounding environment. DLH provides community training on leveraging economically valuable waste and establishes waste banks for distributing sorted waste. Community engagement in waste management is deemed crucial for creating a healthy and clean environment (Wijayanti & Suryani, 2015) <sup>[39]</sup>.

In pursuit of effective waste management goals, Tangerang City DLH employs a communication strategy involving coaching and outreach activities targeted at the community. This comprehensive strategy encompasses waste sorting, collection, transportation, processing, and final disposal. Drawing from the insights of the Environmental Management journal's article titled "The Effectiveness of Communication Strategies to Improve Public Understanding of Environmental Problems 2016, coaching and socialization approaches are deemed highly effective in enhancing public understanding of environmental issues. Consequently, DLH Tangerang City is committed to continually enhancing coaching and outreach programs as integral components of their communication strategy.

Beyond community outreach and guidance, Tangerang City DLH extends assistance to households in managing waste at

the source. This aligns with the growing public awareness of the significance of cleanliness and effective waste management. Moreover, DLH collaborates with sub-districts through the Waste Bank program, aiming to facilitate community waste management by providing incentives and empowering residents to transform waste into economically valuable products (Aparcana, 2017) <sup>[4]</sup>.

Socialization communication through seminars in various schools and sub-districts, along with monitoring road conditions and waste disposal sites (TPS), constitutes another facet of Tangerang City DLH's communication strategy in waste management. Seminars and public discussions serve to increase public knowledge about waste management and discourage littering habits. Simultaneously, monitoring road conditions and TPS is crucial to ensuring environmental cleanliness and preventing health issues arising from accumulated waste (Gifford & Nilsson, 2014) <sup>[17]</sup>.

A well-structured strategy is imperative in waste reduction efforts for community acceptance and effective implementation (Kala *et al.*, 2020) <sup>[23]</sup>. Tangerang City DLH's communication strategy in waste management encompasses planning, execution, and community impact. This holistic approach aims to ensure that conveyed information is well-received and understood by the public, with the hope that it will motivate active community participation in waste reduction programs. The journal also emphasizes the pivotal role of community involvement in waste reduction to minimize landfill contributions. Therefore, DLH Tangerang City's communication strategy is anticipated to inspire public engagement in waste reduction initiatives.

### Conclusion

In conclusion, DLH Tangerang City has implemented several crucial elements in designing an effective communication strategy, including planning, objectives, activities, messages, and media. The planning phase involves identifying potential waste generation, conducting data collection, preparing waste management balance sheets, and focusing on community development. The overarching goal is to instigate a behavioral change in individuals, encouraging greater concern for the cleanliness of their surroundings and improving waste management performance. This includes both waste reduction and handling, as well as transforming waste into economically valuable products. The activities undertaken by DLH Tangerang City encompass socialization, coaching, and training programs. The core message revolves around fostering public awareness regarding the importance of maintaining environmental cleanliness and adopting effective and sustainable waste management practices. Additionally, the emphasis is on using waste more judiciously and comprehending the negative impacts associated with accumulated waste. DLH Tangerang City employs a direct and interactive approach with the community through various socialization media to convey these messages effectively. This comprehensive communication strategy is geared towards enhancing community participation and support, ultimately contributing to the achievement of the waste management goals outlined by DLH Tangerang City.

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