

Implementation Of Medan Mayor Regulation Number 18 Of 2021 On The Delegation Of Partial Waste Management Authority To Sub-District Heads Within The Medan City Government In Medan Helvetia Sub-District

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Medan Mayor Regulation Number 18 of 2021 provides a legal basis for delegating partial waste management authority to sub-district heads within the Medan City Government. The purpose of this regulation is to enhance the effectiveness of waste management at the sub-district level by empowering sub-districts as waste managers who are closer to the community. The implementation of this regulation in Medan Helvetia Sub-District faces various supporting and inhibiting factors. The supporting factors identified include the proximity between the sub-district and the community, participatory programs involving the community in cleanliness activities, and close coordination between the village heads and the sub-district administration. Participatory programs such as communal work (gotong royong) and waste management education have proven effective in raising public awareness about the importance of environmental cleanliness. However, several challenges hinder the implementation of this policy, including overlapping responsibilities between the sub-district and the Medan City Environmental Agency, budget and facility constraints, and the lack of an effective coordination mechanism among stakeholders. To overcome these obstacles, it is necessary to improve coordination between the sub-district and the Environmental Agency, develop more innovative cleanliness programs, and optimize existing resources. Additionally, active community participation is crucial to ensuring the successful implementation of this policy. By optimizing all involved elements, the implementation of Medan Mayor Regulation Number 18 of 2021 in Medan Helvetia Sub-District is expected to create a cleaner and healthier environment and serve as a model for other sub-districts in Medan City.

I. Introduction

Waste is a major challenge in almost all major cities worldwide. This challenge serves as one of the key indicators in determining whether a city is suitable for development. Waste management issues continue to be discussed globally, including in Indonesia. This is due to the close relationship between waste and human daily activities as well as societal culture. Waste is a byproduct of human activities in daily life, including the production, consumption, and disposal of goods. Culture and public behavior also play a crucial role in waste generation. For instance, the widespread use of single-use plastics or the lack of awareness in waste segregation and management (Dongoran et al., 2018).

Waste refers to materials discarded or generated from human activities or natural processes that hold no economic value if not properly processed. The waste problem arises due to an annual waste volume increase of approximately 2-4%, which is not matched by adequate facilities and infrastructure for waste management. As a result, a significant portion of waste remains improperly managed. Additionally, individual awareness plays a crucial role in waste management. Currently, society still lacks understanding of how to manage and utilize waste effectively. Waste is often perceived as something without value or benefit. To this day, waste management remains a complex challenge, particularly in Indonesia's major cities. This issue frequently arises due to the large volume of waste and the limited availability of final disposal sites. Furthermore, rapid urban population growth exacerbates the problem. The reliance on conventional waste management methods also poses a significant obstacle to effective waste handling (Kurniawan & Santoso, 2021).

The daily activities of the community play a crucial role in this matter. Accurately measuring the amount of waste is closely related to Indonesia's population. Based on research data collected, each individual produces an average of approximately 0.5 kg of waste per day. In general, the larger the population growth, the greater the fulfillment of life needs, which consequently leads to increased activities and waste generation. It is important to understand that waste management is not solely the government's responsibility but also requires active participation from the community. Collective efforts are needed to change habits and behaviors related to waste, such as reducing the use of single-use plastics, properly sorting waste, and promoting recycling activities (Chaerul & Zatadini, 2020).

According to observations conducted by the Central Bureau of Statistics (BPS) in 2020 across 384 cities in Indonesia, the daily waste volume reached 80,235.87 tons. It is estimated that approximately 4.2% of this total waste is transported to final disposal sites (TPA), 37.6% is burned, 4.9% is dumped into rivers, and around 53.3% remains unprocessed. According to estimates from the National Urban Development Strategy (NUDS) in 2003, each individual generates approximately 0.5–0.6 kg of waste per day. As the capital of North Sumatra Province, Medan produces a community-generated waste volume of approximately 5,710 m³ per day (Bahri et al., 2019).

The city of Medan, as one of the largest metropolitan cities in Indonesia, faces serious challenges in waste management. Rapid population growth, high urbanization, and a consumerist lifestyle have significantly increased the volume of waste in the city. Although several efforts have been made to address waste-related issues, there are still some aspects that require further attention. Therefore, this study aims to examine waste management

issues in Medan, particularly in the Medan Helvetia District, and to identify sustainable solutions (Auliani, 2020).

Medan experiences a high population growth rate each year, which directly impacts the increasing volume of waste—more residents generate more waste. Therefore, it is crucial to analyze the impact of population growth on the city's waste management system. The Medan City Government continues to improve waste management by developing better infrastructure, promoting waste sorting programs, enhancing waste processing, and raising public awareness and participation. However, several challenges remain, such as the development of adequate infrastructure, sufficient funding, and increased community participation (Khair et al., 2018).

According to the Medan City Environmental Agency, waste management in the city, which generates a total volume of 2,000 tons per day, is severely constrained by the availability of only 112 vehicles (83 Tipper-type Yellow Trucks and 19 Anrol-type container bins). This limited capacity has led to several issues, including waste accumulation, which has negative environmental impacts, and inefficiencies in waste collection and transportation. The Medan City Environmental Agency is responsible for managing waste throughout the city. Waste from residential areas, shops, and traditional markets is collected and deposited into designated containers before being transported to Temporary Disposal Sites (TPS) and, ultimately, to Final Disposal Sites (TPA). The current waste transportation facilities consist mainly of garbage trucks and carts. However, the limited availability of waste collection facilities remains a significant issue, particularly in Medan Helvetia District, which still lacks adequate sanitation infrastructure (Saputra S et al., 2020).

The agency is only able to collect approximately 68% of the total waste produced, leaving 32% uncollected. One of the main challenges in Medan's waste management system is the prevalence of illegal dumping. Effective waste management should address waste issues promptly at the source while maximizing recycling efforts. According to data from the Medan City Environmental Agency in 2020, a significant portion of uncollected waste is due to the limited number of transportation fleets. While the volume of waste continues to rise—especially in Medan Helvetia District—due to population growth and increasing industrial activity, the number of waste collection vehicles remains insufficient (Nugraha et al., 2022).

The Medan City Government has issued Mayor Regulation No. 18 of 2021 to regulate waste management in the city. This regulation aims to clarify the roles, duties, and functions between the Environmental Agency and district administrations, ensuring better waste management services for the public. Additionally, it seeks to maintain cleanliness, aesthetics, and sanitation in the city. The Mayor of Medan explained that the delegation of some authority to the district level is a response to public complaints regarding previously ineffective waste collection and management. In this context, district heads and their staff are considered the frontline service providers due to their direct engagement with the community (Novianti, 2018).

The Mayor of Medan also emphasized that he frequently monitors waste collection and Temporary Disposal Sites (TPS) in various districts through the responsible district heads. Therefore, waste management is not merely a problem for district officials but a duty that must be carried out effectively. With this delegation of authority, the Medan City Government

is expected to improve its performance in urban waste management in the future. All district heads and their staff are also expected to be more responsive to public complaints, particularly regarding waste issues. The implementation of this policy will be closely monitored, especially in Medan Helvetia District, to ensure that waste management meets public expectations (Toruan & Kristiam P.M, 2022).

2. Research Method

The research method used in this study is a qualitative descriptive approach. This study aims to describe and analyze the implementation of Medan Mayor Regulation No. 18 of 2021 regarding the delegation of partial waste management authority to district heads, with a focus on Medan Helvetia District. The data used consists of both primary and secondary data. Primary data is obtained through in-depth interviews with relevant stakeholders, including the district head, waste management officers, and local community members (Sugiyono, 2017). Meanwhile, secondary data is obtained from official documents, reports, and policies related to waste management in Medan City. This approach is expected to provide a comprehensive depiction of policy implementation, including the challenges and opportunities encountered in the field. Data collection is conducted using observation, interviews, and document analysis techniques. Observations are carried out to directly examine the waste management implementation in Medan Helvetia District, while semi-structured interviews are conducted to gather more in-depth and relevant information aligned with the research focus. Document analysis is used to complement the data obtained from observations and interviews. The collected data is analyzed using a thematic analysis method, which involves categorizing data based on specific themes relevant to policy implementation (Rasyid, 2022). The results of this analysis are expected to provide insights into the policy's effectiveness, the challenges faced, and recommendations for improving waste management in Medan City, particularly in Medan Helvetia District.

3. Theoretical Framework Implementation Theory

Public policy implementation is the stage in which policies established by the government or public institutions are executed to achieve their intended objectives. This process involves several key steps, including program planning, resource allocation, coordination with stakeholders, as well as monitoring and evaluation. Challenges in policy implementation may arise in the form of administrative, political, financial, or technical constraints that can affect the effectiveness of execution. In implementation theory, public policies can be directly applied through concrete programs or further developed into derivative policies. According to Van Meter and Van Horn, policy implementation is a series of actions that transform decisions into operational reality. Meanwhile, Ripley and Franklin emphasize that implementation takes place after legislation has been enacted (Kadji, 2015).

George C. Edwards III identifies four key factors that influence the success of policy implementation: communication, resources, disposition, and bureaucratic structure. Effective communication ensures that policy implementers clearly understand the policy, while adequate resources—both human and financial—support smooth implementation. The disposition of policy implementers, including their attitude, commitment, and integrity, also affects policy outcomes. A well-structured bureaucracy, with clear standard operating

procedures (SOPs) and minimal fragmentation, can enhance the efficiency of policy execution. Additionally, Merilee S. Grindle's perspective emphasizes that successful policy implementation depends on considerations related to the interests of target groups and environmental factors that may influence execution (Febriyansyah, 2022).

The availability of resources such as workforce, funding, and information also plays a crucial role in policy success. A well-trained and motivated workforce is essential for effective policy implementation. Moreover, access to accurate and transparent information regarding procedures and compliance significantly impacts implementation effectiveness. Financial constraints often arise when policy programs are initiated by the legislature but the responsibility for funding falls on the executive branch. Therefore, coordination between policymakers and stakeholders is essential to ensure that policy implementation runs smoothly and achieves its intended objectives (Purwanto & Sulistyastuti, 2012).

Medan City Mayor Regulation

Medan City Mayor Regulation No. 18 of 2021 governs the delegation of partial waste management authority from the Medan City Environmental Agency to district heads. This measure is a response to the increasingly complex waste issues, with waste volume reaching 2,000 tons per day and a limited number of collection vehicles. Medan City faces significant challenges in waste management, primarily due to population growth and high consumer consumption. This situation is further exacerbated by the habit of indiscriminate waste disposal, causing considerable environmental impacts. In fact, Medan was once listed among the 10 dirtiest cities based on the 2018 Adipura assessment. Therefore, this policy of delegating authority aims to expedite and enhance the effectiveness of waste management, with the hope that waste issues can be better controlled at the district level.

One of the districts involved in this policy is Medan Helvetia. The district head of Medan Helvetia, Putera Ramadan, explained that cleanliness management is carried out not only in the morning but also during the night until early morning to clean the main roads of illegal waste. Cleanliness officers and P3SU (Public Infrastructure and Facilities Handling Officers) are deployed to support environmental cleanliness, while sub-district heads and neighborhood heads are tasked with monitoring. Medan City Mayor, Bobby Nasution, has made cleanliness one of the priority programs, aiming to accelerate services and enhance waste management effectiveness through the delegation of authority to district heads. With this strategy, it is hoped that waste issues in Medan City, especially in Medan Helvetia, can be more optimally addressed (Sitanggang, 2024).

Waste Management in Medan City

Waste management in Medan City faces various challenges, with the primary sources of waste coming from households, street cleaning areas, markets, hotels, and restaurants. Several supporting factors contribute to efficient waste management, such as the use of appropriate equipment, including automatic waste collection trucks, compacting trucks for waste compaction, and road haul container trucks for transporting large volumes of waste. The Medan City Government, under the leadership of Mayor Bobby Nasution, has taken significant steps in waste management, including delegating some waste management responsibilities to district heads through Mayor Regulation No. 18/2021 and implementing Alfimer technology at the Terjun Final Disposal Site (TPA) to process waste into useful

products such as organic fertilizers and industrial fuel.

Mayor Bobby Nasution has also established six waste-free pilot areas in various districts and markets to promote cleanliness at the local level. Support for this initiative comes from various parties, including Kristian Redison Simarmata, who appreciates the waste management program and emphasizes the importance of ongoing education to change the public's mindset regarding waste disposal. Additionally, implementing waste management programs in schools is suggested to foster awareness of clean living from an early age. With collaboration from various stakeholders, these efforts are expected to create a cleaner and more sustainable Medan City (Siregar, 2023).

4. Results and Discussion

Implementation of Medan Mayor Regulation No. 18 of 2021 on the Delegation of Waste Management Authority in Medan Helvetia Sub-District

The Medan City Government issued Mayor Regulation No. 18 of 2021 with the aim of bringing waste management closer to the community at the district level. With this policy, part of the authority over waste management is transferred to the district heads, so that waste management is expected to be more effective and responsive to local needs. Medan Helvetia District is one of the areas implementing this policy, with the goal of making waste management faster, more precise, and suited to the characteristics of the area. This is also expected to create a cleaner and healthier environment for the community.

Communication is a key aspect in the implementation of this policy. Through interviews with various parties, it was found that information dissemination and socialization to the public have been carried out, but there are still challenges in improving the public's understanding of the importance of environmental cleanliness. Although efforts have been made to socialize the policy, public awareness remains relatively low, which can hinder the policy's effectiveness. Therefore, a more intensive communication strategy based on a more personal approach is needed to encourage the community to become more engaged and active in maintaining cleanliness (Candra, 2020).

Furthermore, a major challenge in the implementation of this policy is the limited resources available, including budget, facilities, and manpower. Medan Helvetia District, despite having adopted this policy, still faces issues regarding the availability of waste collection vehicles and sufficient workforce. These resource limitations have resulted in suboptimal waste management, especially with the increasing population and the expanding area that needs to be served. Therefore, efforts to improve human resource capacity and existing facilities are necessary to ensure that waste management can be more effective and aligned with the city's growth.

The operational process of waste management in Medan Helvetia, particularly the transportation from Temporary Waste Disposal Sites (TPS) to Final Disposal Sites (TPA), still faces significant challenges. One of the main complaints from residents is the accumulation of waste in certain areas and the irregular waste collection schedule. This highlights the need for increased efficiency in cleaning operations, especially in terms of scheduling and monitoring waste collection. The irregularity of waste collection not only disrupts residents' comfort but also has the potential to cause health and environmental problems, requiring serious attention from the local government.

The success of this waste management policy greatly depends on strong synergy

between the sub-district heads (camat), village heads (lurah), and the Environmental Agency of Medan City. Good coordination among all parties is crucial to ensure the smooth operation of waste management, preventing overlapping duties or confusion in implementation. One way to enhance this coordination is by establishing regular communication forums between the camat, lurah, and the Environmental Agency. The use of digital systems or technology-based applications could also serve as a solution to streamline monitoring, reporting, and scheduling of waste collection, while improving transparency in waste management operations (Suminar et al., 2016).

Public education on the importance of proper waste management has been carried out through various activities such as environmental campaigns, seminars, and collaboration with schools. However, community participation in waste sorting at home and maintaining environmental cleanliness still needs improvement. Further socialization about waste segregation and the negative impacts of improperly managed waste should be carried out with a more intensive and engaging approach for the public. Raising awareness is critical so that waste management can run effectively and sustainably, and for the community to take greater responsibility for the cleanliness of their living environment.

The delegation of waste management authority to sub-district heads (camat) provides greater autonomy in addressing cleanliness issues at the sub-district level. This allows the camat to respond to waste problems more quickly and accurately, in line with local conditions. Decisions made are closer to the everyday problems faced by the community, thus improving the efficiency of waste management. However, the success of this policy does not only rely on the level of autonomy granted but also on the synergy between the bureaucratic structure, resource availability, and active support from the community at every level. Without solid support, this policy will not achieve its full potential (Nofriansyah et al., 2022).

With a leaner bureaucratic structure at the sub-district level, the policy is expected to be more responsive and flexible to changing situations. The camat and sub-district apparatus have direct access to identify and address waste problems and coordinate with relevant parties in a more timely manner. However, the overlapping of responsibilities between the sub-districts and the city agency remains one of the challenges that still needs to be resolved. To ensure smooth management, clear task division and standardized work procedures are necessary to avoid confusion or duplication in handling cleanliness issues. This will accelerate decision-making and improve operational efficiency in the field.

Although this policy has brought about some positive changes in waste management, many challenges remain in ensuring its optimal and sustainable implementation. Resource limitations, both in terms of facilities and workforce, continue to be a major barrier in this policy's execution. Additionally, the low public participation in waste management, such as waste sorting at home, exacerbates the policy's effectiveness. The government must be more proactive in strengthening coordination among involved parties, increasing budget allocations for waste management facilities, and continuing educational efforts to raise public awareness of the importance of maintaining environmental cleanliness to ensure the sustainability of this policy.

Support and Challenges in the Implementation of Medan Mayor Regulation No. 18 of 2021 on Waste Management in Medan Helvetia Sub-District

Medan Mayor Regulation No. 18 of 2021 aims to delegate part of the waste

management authority to the sub-districts, including Medan Helvetia. This policy is expected to improve the effectiveness of waste management by bringing decision-making processes closer to lower levels, making them more responsive to the community's needs. With this delegation of authority, sub-districts have greater responsibility in overseeing and managing cleanliness in their areas, while also encouraging active community involvement in efforts to maintain a clean and healthy environment. However, despite the significant potential of this policy to improve the waste management system, its success is greatly influenced by various supporting factors as well as obstacles that arise during its implementation in the field.

The main support in the implementation of this policy comes from the strong commitment shown by the city and sub-district governments in realizing better waste management. One form of this commitment is reflected in the optimal allocation of human resources at the sub-district level, allowing waste management tasks to be carried out in a more structured and directed manner. Additionally, the allocated operational budget is sufficient to implement various cleanliness programs, such as the provision of trash bins, waste collection vehicles, and educational programs for the community. Public awareness of the importance of waste management has also increased, especially with the socialization of organic and inorganic waste separation. Active community participation in environmental cleanliness activities, such as mutual cooperation and waste banks, shows that the public is beginning to understand the importance of maintaining cleanliness not only as a government responsibility but also as a shared concern for the surrounding environment (Mariana & Paskarina, 2006).

Although various positive efforts have been made to support the implementation of this policy, several obstacles still hinder its effectiveness. One of the main challenges is the limited facilities and supporting infrastructure, such as the insufficient number of waste collection vehicles to optimally serve the entire sub-district. Due to the limited number of vehicles, waste collection is often delayed, leading to an accumulation of waste at several temporary disposal points. Another challenge is the lack of effective coordination between the Medan City Environmental Agency and the sub-district. Unclear divisions of responsibility and operational procedures often result in overlapping duties, slowing down problem resolution in the field. Therefore, a more structured coordination system is needed, both in terms of communication and collaboration mechanisms between the sub-district and the Environmental Agency, to ensure that this policy runs more efficiently and provides tangible benefits to the community.

Additionally, village heads (lurah) can initiate various community-based activities involving local leaders, youth organizations, and schools in waste management programs. By fostering synergy among different stakeholders, efforts to improve environmental cleanliness can be more structured and sustainable. Activities such as neighborhood cleanliness competitions, the establishment of waste banks, and recycling training can be effective steps in instilling environmental awareness from an early age (Auliani, 2020).

The local government must also ensure the availability of incentives for residents actively participating in waste management, such as reward programs or point-based compensation that can be exchanged for daily necessities. This approach can significantly increase public awareness of the importance of waste reduction and resource utilization. Additionally, digital technology can be leveraged to facilitate reporting and coordination processes, such as through a dedicated application that allows residents to report waste pile

locations or access information about waste collection schedules.

The success of the waste management program in Medan Helvetia Sub-district can serve as a model for other regions to adopt similar initiatives. Regular evaluations and regulatory reinforcement must continue to ensure the program remains effective. With full government support, active community participation, and innovations in waste management systems, urban environments can become cleaner, healthier, and more livable.

Beyond clarifying task distribution, coordination between the sub-district and the Environmental Agency must also be strengthened through a more effective communication system. Establishing clear Standard Operating Procedures (SOPs) regarding waste collection schedules, reporting mechanisms, and the responsibilities of each party can help reduce overlapping duties and improve operational efficiency. Furthermore, forming a special task force to monitor the implementation of waste management policies could be a viable solution to ensure that every report and issue in the field is promptly addressed (Sulhansyah & Hidayat, 2023).

On the other hand, the government must also seek alternative funding sources to address budget constraints in waste management. One viable approach is encouraging private sector involvement through Corporate Social Responsibility (CSR) programs. By collaborating with environmentally conscious companies, the provision of facilities such as Temporary Disposal Sites (TPS) or additional waste collection fleets can be supported. Additionally, implementing an incentive-based waste collection fee system—where residents who sort their waste receive cost reductions—can be a strategic step to enhance waste management effectiveness while fostering environmental awareness.

The application of technology in waste monitoring can also serve as an innovative solution to improve coordination and ensure a swift response to waste-related issues. Digital applications that enable residents to report waste accumulation points in real time, along with a GPS-integrated system for waste collection fleets, can help map waste production patterns across different areas. With accurate and real-time data, sub-district authorities and the Environmental Agency can take more strategic actions in scheduling waste collection, allocating resources, and evaluating overall waste management policies.

4. Conclusion

The implementation of Medan Mayor Regulation No. 18 of 2021 in Medan Helvetia Subdistrict demonstrates that, despite relatively effective communication, some residents remain unaware of the policy—likely due to a lack of information or indifference. In terms of resources, there are limitations in the number of waste collection operators and insufficient funding for acquiring heavy-duty cleaning equipment, which remains under the authority of the Medan City Environmental Agency. The subdistrict's fleet of trucks is very limited, with many in poor condition, affecting the efficiency of waste management services. Although policy implementation has been adjusted to comply with existing regulations and available human resources, the absence of specific incentives for sanitation workers has led to daily allowances for contract workers serving as an alternative to incentive funds. Moreover, the bureaucratic structure has not yet been fully optimized, as the limited number of sanitation personnel and frequent breakdowns of waste transport vehicles hinder the enforcement of Standard Operating Procedures (SOPs). On the other hand, waste management in this subdistrict benefits from the close interaction between the local government and residents,

participatory program initiatives, and strong coordination between the village heads (Lurah) and subdistrict authorities. This facilitates quicker responses to public complaints, increases community involvement in collective clean-up efforts, and strengthens resident participation in sanitation programs. However, challenges remain, particularly in overlapping responsibilities between the subdistrict and the Environmental Agency, budget and facility constraints, ineffective coordination, and a lack of resources at the village level. To address these issues, solutions should include clearer task distribution, increased budget and infrastructure allocation, the use of technology for coordination and waste monitoring, and collaboration with both the community and private sector. These efforts will help establish a more effective and sustainable waste management system.

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