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IMPLEMENTATION OF WASTE MANAGEMENT POLICY IN BUMI BERINGIN VILLAGE, WENANG DISTRICT, MANADO CITY

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Abstract

This study aims to determine, analyze, and describe the waste transportation system and the factors that influence the implementation of policies on waste management by reviewing several indicators, namely household waste sorting, waste transportation to the SPA (Intermediate Transition Station) by garbage motorbikes, then continued to the TPA (Final Disposal Site) by garbage trucks, and also the timeliness of waste transportation. The research method used is a descriptive method with a qualitative approach using primary and secondary data obtained through interviews, observations, and documentation. The results of this study indicate that good waste management can support the optimization of the waste transportation process. The implementation of waste management policies on the transportation system still encounters various obstacles, such as a lack of public awareness in sorting waste, a lack of transportation fleets, delays in transportation, and a lack of maximum supervision. These obstacles cause the waste transportation system to not run optimally. In addition, the implementation of policies in waste management greatly affects the smoothness and optimization of the waste transportation system, so there is a need for improved facilities and infrastructure, community participation, and more intensive supervision so that the waste transportation system can run well, more effectively, efficiently, and sustainably.

Keywords: Policy Implementation, Waste Management, Waste Transportation System,

INTRODUCTION

Waste management is a crucial, multidimensional, and complex issue in urban areas. The increase in waste volume is driven by population growth, increased economic activity, and significant changes in consumption patterns, particularly in urban areas. Manado, the capital of North Sulawesi Province, faces serious challenges in waste management, particularly in areas with high population density and economic activity, such as Wenang District. Normatively, waste management in Indonesia is regulated by Law Number 18 of 2008 concerning Waste Management, which emphasizes that waste management must be carried out systematically, comprehensively, and sustainably, encompassing waste reduction and management. However, the implementation of this policy at the regional level is still suboptimal. As stated by Ebnou Abdem et al. (2024), the waste problem that arises is essentially a national-level issue that requires comprehensive and integrated handling. Baidhowah (2022) also emphasizes that properly managed and utilized waste will have a positive impact on public health and the environment, and can change people's behavior.

Data shows that Indonesia, as the world's fourth-most populous country (278.69 million people in mid-2023 according to Statistics Indonesia), produces a steadily increasing volume of waste. Based on the National Waste Management Information System (SIPSN) managed by the Ministry of Environment and Forestry, the average national waste generation from 2020 to 2023 reached 30.9 million tons per year. Karadimas et al. (2023) stated that the high population growth directly impacts the increasing volume of waste because each person produces waste according to their daily needs. At the North Sulawesi provincial level, total annual waste generation reaches 505,276.76 tons per year. Manado City is recorded as the largest contributor to daily waste generation, with 291.20 tons per day, equivalent to

106,288 tons per year. The impact of the increasing waste in Manado City has created new problems, including people littering and the Sumompo Final Disposal Site (TPA) starting to fill up. Saribulan et al. (2023) revealed that heavy equipment such as excavators have difficulty moving waste to a usable location. This condition prompted the Manado City Government to establish Manado City Regional Regulation Number 1 of 2021 concerning Waste Management to create a clean, healthy, and comfortable environment, as well as to educate the public about the importance of optimal waste management. However, waste management policies in Manado City have not been optimally implemented. Influencing factors include a lack of competent human resources, limited budgets, and weak inter-agency coordination. Public participation is also crucial. Although the community is considered a crucial element in successful waste management, studies that examine community involvement in depth are limited. Wenang District is a sub-district in Manado City, strategically located as the city center with a dense population and high economic activity. This area serves as a hub for various activities, including offices, commerce, services, and residential areas, generating large volumes of various types of waste. Therefore, a sound, effective, efficient, and sustainable waste management system is essential. Policy implementation at the sub-district and village levels is a crucial stage in determining the policy's success. As the government units closest to the community, sub-districts and villages play a strategic role in coordinating policy implementation, encouraging community participation, and acting as a bridge between government policies and the situation on the ground. Conditions frequently encountered in the field indicate the persistence of waste accumulation in several locations, delays in waste collection, a lack of understanding of waste sorting at the source, and low public awareness of littering. This indicates a gap between established policies and implementation at the local level.

Specifically, Bumi Beringin Village has implemented a waste collection system based on Manado City Regional Regulation Number 1 of 2021 and Mayoral Regulation Number 33 of 2018. This system uses garbage motorcycles to transport waste from residential areas to the Intermediate Transition Station (SPA), where it is then transferred to garbage trucks for transport to the landfill. However, the fleet is very limited: only two garbage motorcycles and one garbage truck serve five neighborhoods. This limitation affects the speed of service and has the potential to cause waste accumulation. Bumi Beringin Village itself has a population of 3,360 people (1,720 men, 1,640 women) based on BPS Manado City data in 2025, with quite high density and activity. The main problems found include: increasing volume and complexity of waste, low public awareness, limited facilities and infrastructure, gaps between regulations and implementation, weak law enforcement, lack of socialization, and limited financing and management. Therefore, this study is important to conduct in-depth studies on the implementation of waste management policies in Bumi Beringin Village, especially on the waste transportation system, and to identify determinant factors that influence success and obstacles in its implementation.

METHOD

This study uses a qualitative research type with a descriptive approach. The qualitative approach was chosen because it aims to understand in depth the implementation of waste management policies in Bumi Beringin Village, Wenang District, Manado City, including the factors that influence and the obstacles faced in its implementation. According to Sugiyono (2019), qualitative research is a research method used to understand natural operational conditions, with the researcher as the main instrument in the research process. The descriptive approach is used to describe the phenomena being studied systematically, factually, and accurately. The research location was determined in Bumi Beringin Village, Wenang District, Manado City, with the consideration that this area is an urban residential area with a fairly high level of community activity, resulting in a large volume of waste and requiring an effective waste management system, especially in the aspect of waste transportation.

The data sources in this study consist of primary and secondary data. Primary data were obtained directly from informants through in-depth interviews and field observations. The research informants included the Wenang Sub-district Head, the Head of the Wenang Sub-district Sanitation Section, the Head of the Bumi Beringin Village Environment, sanitation workers/waste collectors, and representatives of the Bumi Beringin Village community who were selected purposively. Secondary data were obtained from various documents, reports, laws and regulations, statistical data, and literature related to the waste transportation system. This secondary data was used to complement and support the primary data obtained from interviews and observations. The data collection technique was carried out through three methods: (1) in *-depth interviews* with key informants to gather information about the waste transportation process; (2) direct observation of the situation and conditions in the field, including waste transportation activities by garbage motorbikes and garbage trucks; and (3) documentation in the form of photographs related to waste transportation. The data analysis

technique used the interactive analysis model of Miles and Huberman (2014), which includes three stages: data reduction (sorting and simplifying relevant data), data presentation (arranging data in the form of narratives, tables, or matrices), and drawing conclusions and verification (formulating the meaning of data and drawing conclusions based on findings in the field). The research indicators (sub-focus) consist of four parameters used to analyze the stages of waste transportation, namely: (1) Sorting of household waste from the source – namely the process of separating organic and inorganic waste by the community before being transported; (2) Transporting waste from homes to the Intermediate Transition Station (SPA) with a garbage motorbike – namely the process of collecting waste from residents' homes using small motorized vehicles that can reach narrow alleys; (3) Transporting waste from the SPA to the Final Disposal Site (TPA) with a garbage truck – namely the process of transferring waste from the garbage motorbike to the garbage truck at the SPA to then be taken to the TPA; (4) Time or hours of garbage transportation – namely the accuracy of the operational schedule of the garbage motorbike and garbage truck in carrying out transportation. These five indicators are used to describe the garbage transportation procedure as well as identify the determinant factors that influence it.

RESULTS AND DISCUSSION

1. Sorting Household Waste Before Being Transported by Garbage Truck

One of the most important stages in the waste management system for transporting household waste is waste sorting. Based on research conducted through interviews with several respondents, it was found that waste collection in Wenang District, especially in Bumi Beringin Village, is dominated by the collection and transportation of waste from residents' homes to the SPA location, either by garbage motorbikes or garbage trucks. However, in its implementation, problems are still found related to the suboptimal sorting of household waste by residents before the waste is collected by garbage motorbike officers. Household waste is generally still mixed, consisting of organic and inorganic waste in the same place or container This shows that the level of public awareness of the importance of waste sorting is still very low, even though waste sorting starting from collection is the initial step that is very decisive for waste management efforts to be more optimal overall. By not sorting waste, it can certainly have an impact on the transportation process by garbage motorbike officers, where officers must transport all types of waste in a mixed state or condition, making it difficult for collectors in the further management process at the SPA or TPA (Final Disposal Site) location. In addition, the mixing of organic and inorganic waste can cause an increase in the volume of wet waste and produce unpleasant odors, as well as accelerate the accumulation of wet waste at the SPA location.

According to Law Number 18 of 2018 concerning Waste Management, waste sorting is the activity of grouping and separating waste according to type, quantity, and nature. This provision demonstrates that waste sorting is a crucial component of Indonesia's waste management system. According to environmental management experts, sorting household waste is a very strategic initial step because it can reduce the volume of waste in landfills (TPA). Separating organic and inorganic waste is considered to increase the effectiveness of waste collection by making the types of waste collected easier to manage. In current research, the implementation of waste sorting has not been said to be optimal, resulting in all types of waste being transported simultaneously by garbage trucks and garbage trucks, so that the garbage capacity becomes full more quickly and the transportation process becomes less effective and efficient.

2. Transporting Garbage from Home to the Intermediate Transition Station (SPA) with a Garbage Motorbike

The implementation of a sanitation service system for transporting waste from residents' homes to the SPA (Intermediate Transition Station) using garbage motorcycles is one effort in household waste management. In accordance with research that has been conducted, garbage motorcycles are used to transport household waste in residents' homes or in residential areas by passing through narrow alleys that cannot be passed by large transport vehicles such as garbage trucks. This shows that the presence of garbage motorcycles certainly has an important role in supporting waste transportation services in urban areas with densely populated residential conditions. The condition of residential areas consisting of narrow alleys and small roads causes access for large vehicles to be limited, thus the direct use of garbage motorbikes is considered capable of reaching the location of household waste sources effectively.

The implementation of a waste transportation system using garbage motorbikes to pick up household waste from residents' homes is carried out every day according to a predetermined schedule and route. This shows the efforts of the District Government, in this case the Wenang District, to regulate a more effective and optimal waste transportation pattern or system so that waste transportation services can run evenly throughout the residential area. The implementation of waste transportation is in accordance with the provisions of Law Number 18 of 2008 concerning Waste Management,

which explains that waste transportation is the activity of carrying waste from sources or collection points to integrated waste management sites or to landfills. The regulation explains that regional governments have a major responsibility to ensure the implementation of effective and efficient waste management, including the provision of waste transportation facilities and infrastructure. In addition, waste transportation using garbage motorbikes is also in accordance with the provisions of the Minister of Public Works Regulation, number 03/PRT/M/2013 concerning the Implementation of Waste Facilities and Infrastructure, which explains that the waste collection and transportation system must be adjusted to the conditions of the service area. In densely populated residential areas or areas with narrow roads, the use of small-sized transport vehicles is considered more effective because it is able to reach locations that are difficult for large vehicles to pass. In this study, the use of garbage motorbikes is an operational solution to reach residential alleys in Bumi Beringin Village, Wenang District, Manado City.

Based on the results of interviews that have been conducted on the waste transportation system using garbage motorbikes, there are still several obstacles, namely the operational dependency of garbage motorbikes and garbage trucks at the SPA location (Intermediate Transition System), where garbage that has been transported from residents' homes by garbage motorbikes must be transferred to garbage trucks at the SPA location to be taken to the TPA (Final Disposal Site). This condition results in garbage motorbikes having to wait for the arrival of garbage trucks at the SPA location to return from the TPA and continue the next transportation service. The operational linkage referred to as dependency certainly causes delays in transportation services if the garbage truck experiences obstacles or obstacles in the transportation process or obstacles on the way to the TPA as well as when returning from the TPA to the SPA. Because if the garbage truck is late returning to the SPA, the garbage motorbike must wait longer and this situation causes a temporary accumulation of garbage at the SPA location. This condition shows that the success of garbage transportation is not only influenced by the performance of garbage motorbikes, but also by the smooth operation of garbage trucks as a means or fleet of further transportation.

Another obstacle is the limited availability of garbage trucks for household waste collection. The volume of household waste generated by the community each day is uncertain, and research has shown that the volume of waste generated by residents continues to increase daily. Consequently, repeated transportation often occurs, making service times ineffective and inefficient, especially in densely populated residential areas with high waste production. If the number of garbage trucks is not proportional to the volume of waste generated by the community, it can cause even greater delays in waste collection. Improving the quality of waste collection services also requires full support from the community in efforts to maintain a clean and healthy environment and comply with regulations regarding waste disposal schedules or hours. Public awareness to dispose of waste according to the specified time, as well as sorting household waste at the source can help and simplify the work of waste collectors, so that the collection process can be carried out effectively and efficiently. Furthermore, the Wenang District Government, as the policy maker for the waste collection system, also needs to conduct periodic evaluations to identify any obstacles that occur in the field.

3. Transportation of waste from the Intermediate Transition Station (SPA) to the Final Disposal Site (TPA) by Garbage Truck

Based on the results of research that has been conducted that the transportation of waste from SPA (Intermediate Transition Station) to TPA (Final Disposal Site) using garbage trucks is a further stage after being collected and transported by garbage motorbikes from residents' homes and taken to SPA. Garbage trucks start operating from early morning on the first route to transport garbage on the main road then return to the SPA location to transfer garbage from garbage motorbikes that have finished transporting household garbage in residential areas on the first route and standby waiting for garbage trucks at the SPA location. This shows that the transportation system that has been carried out on a daily schedule according to the established provisions, still relies heavily on the punctuality of the arrival of garbage trucks at the SPA location. If garbage trucks experience delays or operational obstacles on their way to the landfill or returning from the landfill, they must wait even longer at the SPA location. This shows that the aspect of timeliness is also very important in creating a clean and healthy environment. This situation also certainly causes temporary accumulation of garbage at the SPA location and decreases the effectiveness of overall transportation services The implementation of waste management policies in the waste transportation process aligns with the provisions of Law No. 18 of 2008 concerning Waste Management, which defines waste transportation as the process of moving waste from temporary storage or intermediate processing sites to final processing sites. This demonstrates the responsibility of local governments to ensure an optimal, safe, and environmentally sound waste transportation system The implementation of

this waste collection system aligns with Manado City Regional Regulation Number 1 of 2021 concerning Waste Management, which stipulates that waste collection is a crucial part of structured, integrated, and sustainable waste management. The regulation also emphasizes that the Regional Government is fully responsible for organizing waste transportation from residents' homes to the SPA and to the TPA, ensuring regularity, cleanliness, and punctuality in the transportation service Similarly, with the transportation of garbage motors, in this study the technical provisions are strengthened in the Regulation of the Minister of Public Works Number 03/PRT/M/2013 concerning the implementation of Facilities and Infrastructure in Waste Management which states that the garbage transportation system must be designed based on route efficiency, fleet capacity, and service area conditions. In the context of this study, the use of garbage trucks as the main fleet in transportation from the SPA location to the TPA is in accordance with the specified provisions, because garbage trucks have a large capacity and are effective in transporting large amounts of garbage to the TPA (Final Disposal Site) According to Soemirat (2009), waste transportation that does not run smoothly can have negative environmental impacts, such as waste accumulation, unpleasant odors, and an increased risk of spreading bacteria as a source of disease. Azwar (1990) also said that the effectiveness of waste management is very important due to the continuity between each stage of the system, starting from collection, transportation, transfer to the final disposal site because if one of the stages experiences obstacles, it will affect the entire waste management system.

4. Garbage Collection Time or Hours

In accordance with the research results, it is known that the time or hours of garbage collection in Wenang District, specifically in Bumi Beringin Village, have been arranged based on a schedule that has been set every day, where garbage motorbikes start operating in the morning around 07.00 to 11.30 WITA to transport garbage in residents' homes after that heading to the SPA location. Then for garbage trucks, operating earlier starting from the early morning at 04.00 WITA to 08.00 WITA on the first route to transport garbage on the main road then continuing to the SPA to move garbage from the garbage motorbike and after that continuing to the TPA (Final Disposal Site). This time pattern shows the division of operational hours between garbage motorbikes and garbage trucks in one effective waste management system.

Timeliness in waste transportation is crucial for smooth service delivery. If a garbage truck returns late from the final disposal site (TPA), the garbage truck must wait at the SPA. This situation can cause temporary backlogs and disrupt the flow of subsequent transportation services. Therefore, operational hours are a crucial factor in implementing the waste transportation system in the study area. This waste transportation schedule is in accordance with the provisions stipulated in Manado City Regional Regulation Number 1 of 2021 concerning Waste Management, which explains that waste management must be implemented in a structured, integrated, and sustainable manner, including regulating the waste transportation schedule from the source to the SPA and then to the TPA. According to Soemirat (2009), inconsistent waste collection times can disrupt the effectiveness of the overall waste management system. Therefore, accurate scheduling is crucial for maintaining environmental cleanliness and improving the quality of waste collection services. This study shows that even with a predetermined schedule, operational constraints still occur, resulting in delays in the transportation process from the SPA to the TPA.

CONCLUSION

Based on the results of research and discussion regarding the implementation of waste management policies in Bumi Beringin Village, Wenang District, Manado City, the following conclusions can be drawn:

1. Household waste sorting is not yet optimal. People still mix organic and inorganic waste in one container due to low awareness, limited separate waste bins, and a lack of government outreach. As a result, the collection process is less effective and efficient because all types of waste are transported simultaneously, quickly filling up vehicles and creating unpleasant odors at the SPA site.
2. Garbage transportation from homes to the Intermediate Transition Station (SPA) using garbage trucks has been carried out according to the schedule and on the designated routes, but still faces significant obstacles. Limited fleet (only two garbage trucks for five neighborhoods), operational dependence on garbage trucks at the SPA, and frequent vehicle breakdowns have led to delays in transportation and temporary waste accumulation. The use of garbage trucks is considered effective in reaching narrow alleys, but the increasing volume of waste is not commensurate with the available fleet capacity.

3. Waste transportation from the SPA to the Final Disposal Site (TPA) by garbage trucks is also suboptimal. Limited trucks (only one for the entire Wenang District), busy roads, and long queues at the TPA cause operational delays. Delays in garbage trucks directly impact garbage trucks, which have to wait longer at the SPA, resulting in waste accumulation and a decline in overall service effectiveness.
4. Waste collection times have been regulated, with garbage trucks operating at 7:00–11:30 WITA (Central Indonesian Time) and garbage trucks operating at 4:00 WITA (Central Indonesian Time). However, this interdependence between the two fleets creates a potential for delays. If a garbage truck returns late from the landfill, the garbage trucks must wait, resulting in a buildup of waste at the landfill and disruption to service. Furthermore, residents are still found disposing of waste outside the designated schedule.

Overall, the implementation of waste management policies in Bumi Beringin Village has been running according to regulations, but has not been optimal due to various operational constraints and resource constraints. An increase in the fleet, regular vehicle maintenance, additional collection personnel, strengthened supervision, and increased public participation and awareness through ongoing outreach are needed to ensure a more effective, efficient, and sustainable waste collection system.

REFERENCES

Agustino, L. (2008). *Dasar-Dasar Kebijakan Publik*. Bandung: Alfabeta.
Anderson, J. E. (1975). *Public Policy Making*. New York: Holt, Rinehart and Winston.
Azwar, A. (1990). *Pengantar Ilmu Kesehatan Lingkungan*. Jakarta: Mutiara Sumber Widya.
Badan Pusat Statistik. (2023). *Jumlah Penduduk Indonesia Pertengahan Tahun 2023*. Jakarta: BPS.
Baidhowah. (2022). Pengelolaan sampah berbasis masyarakat dan dampaknya terhadap kesehatan lingkungan. *Jurnal Kesehatan Lingkungan*, 14(2), 85-96.
Dunn, W. N. (1983). *Public Policy Analysis: An Introduction*. New Jersey: Prentice Hall.
Ebnou Abdem, A., dkk. (2024). Integrated solid waste management as a national environmental challenge. *Journal of Environmental Policy*, 18(1), 1-12.
Fauziah, & Suparmi. (2022). Sistem pengangkutan sampah di Kota Jambi. *Jurnal Administrasi Lingkungan*, 10(2), 45-57.
Hermawati. (2015). *Pengelolaan dan Pemanfaatan Sampah di Perkotaan*. Yogyakarta: Deepublish.
Kairupan, S. B., & Laloan, I. A. (2020). Evaluasi proses implementasi program bantuan pangan nontunai di Kecamatan Tomohon Selatan. *Jurnal Administro: Jurnal Kajian Kebijakan dan Ilmu Administrasi Negara*, 2(2). http://ejournal.unima.ac.id/index.php/administro
Karadimas, dkk. (2023). Kajian peningkatan volume sampah akibat pertumbuhan penduduk. *Jurnal Lingkungan dan Pembangunan*.
Masengi, E. E., Rondonuwu, M. E., & Bulo, L. (2025). Implementation of the Monitoring Center for Prevention (MCP) Program in the Regional Inspectorate of the Province of North Sulawesi. *Technium Social Sciences Journal*, 69(1), 1-12. https://doi.org/10.47577/tssj.v69i1.12300
Masengi, E. E., Kalangit, W., Pangkey, I., & Mandagi, M. (2022). Human resources development in Bitung City Library Service. *Technium Social Sciences Journal*, 28(1).
Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook* (3rd ed.). California: SAGE Publications.
Nazir, M. (1988). *Metode Penelitian*. Jakarta: Ghalia Indonesia.
Nurlaeli, dkk. (2025). Tata kelola pengangkutan sampah dan dampak lingkungan di Kota Cilegon. *Jurnal Pengelolaan Lingkungan*.
Peraturan Daerah Kota Manado Nomor 1 Tahun 2021 tentang Pengelolaan Sampah.
Peraturan Menteri Pekerjaan Umum Nomor 03/PRT/M/2013 tentang Penyelenggaraan Sarana dan Prasarana Persampahan.
Peraturan Pemerintah Nomor 17 Tahun 2018 tentang Kecamatan.
Peraturan Walikota Manado Nomor 33 Tahun 2018 tentang Penanganan Sampah Berbasis Kecamatan.
Peraturan Walikota Manado Nomor 65 Tahun 2016 tentang Kedudukan, Tata Kerja Kecamatan dan Kelurahan Kota Manado.

Santoso. (2017). Implementasi kebijakan pengelolaan sampah di wilayah perkotaan. *Jurnal Administrasi Negara*, 5(2), 77-89.
Saribulan, dkk. (2023). Permasalahan Tempat Pembuangan Akhir (TPA) Sumompo Kota Manado. *Jurnal Lingkungan Perkotaan*.
Soemirat, J. (2009). *Kesehatan Lingkungan*. Yogyakarta: Gadjah Mada University Press.
Sugiyono. (2019). *Metode Penelitian Kualitatif, Kuantitatif dan R&D*. Bandung: Alfabeta.
Suharto. (2019). Partisipasi masyarakat dalam implementasi kebijakan persampahan. *Jurnal Kebijakan Publik*, 7(1), 21-35.
Tumbel, G. H. (2024). *Reformasi Administrasi Publik*. Kupang: Tangguh Denara.
Tumbel, G. H. (2024). *Public Policy Concept and Model of Policy Formulation, Implementation and Evaluation*. Kupang: Tangguh Denara.
Undang-Undang Nomor 18 Tahun 2008 tentang Pengelolaan Sampah. Jakarta: Pemerintah Republik Indonesia.
Undang-Undang Nomor 23 Tahun 2014 tentang Pemerintahan Daerah. Jakarta: Pemerintah Republik Indonesia.
Winarno, B. (2016). *Kebijakan Publik: Teori, Proses, dan Studi Kasus*. Yogyakarta: CAPS (Center for Academic Publishing Service).