

Public Sector Human Resource Management and Sanitary Landfill Policy Implementation in Malang

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ABSTRACT

The sanitary landfill system has become a critical strategy for urban waste management to minimize environmental risks and ensure sustainable public service delivery. However, the effectiveness of this policy largely depends on the capacity and performance of public sector human resources as the primary implementers. This study examines how public sector human resource management (HRM) contributes to the process and outcomes of sanitary landfill implementation at the Supit Urang Final Disposal Site (TPA) in Malang City, Indonesia. This study also fills a research gap by examining the HRM–policy implementation nexus in sanitary landfill management, which previous studies have largely approached from a technical perspective. This research employed a qualitative approach with a case study design. Data were collected through in-depth interviews, field observations, and document analysis involving key informants such as the UPT head, administrative staff, heavy-equipment operators, and landfill workers. Informants were selected purposively. Data analysis followed the interactive model of Miles, Huberman, and Saldaña, consisting of data reduction, data display, and conclusion drawing. Findings indicate that the effectiveness of sanitary landfill implementation is significantly influenced by the capacity of human resources, including uneven technical competency, high workloads, and limited formal training. Employee motivation was found to be low due to the absence of incentives and performance-based rewards, affecting the consistency of SOP'S implementation. Furthermore, leadership practices characterized by informal communication and irregular supervision contributed to gaps between standard procedures and actual practices in the field. The study concludes that public sector HRM plays a decisive role in the successful implementation of sanitary landfill policies. Strengthening HR capacity through technical training, incentives, structured communication, and routine supervision is essential to ensure consistent and sustainable policy implementation.

Keywords: *environmental governance, local government, policy implementation, public sector human resource management, sanitary landfill.*

Introduction

Waste management is one of the most complex environmental issues facing major cities in Indonesia. Rapid urbanization, population growth, economic expansion, and changes in

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consumption patterns have resulted in an increasing volume of waste. According to the United Nations Environment Programme (UNEP), urban waste growth in Southeast Asia is projected to increase by 40% by 2030, requiring city governments to strengthen more modern and sustainable waste management systems (UNEP, 2023). Indonesia is no exception in facing this phenomenon. As a developing country with an urbanization rate of more than 57%, the national waste management system is still dominated by open dumping practices and does not yet fully meet environmentally sound management standards (World Bank, 2021).

The city of Malang, as one of the major cities in East Java, faces the same pressures. As a city of education, tourism, and a center of creative industry activity, Malang has experienced rapid population growth. An increase in population means an increase in daily waste that must be managed. Based on the 2023 report from the Malang City Environment Agency (DLH), the volume of waste entering the Supit Urang Final Processing Site (TPA) reached more than 600 tons per day (Pemkot Malang, 2024). This amount far exceeds the available land capacity and poses a significant environmental risk. The pressure caused by the surge in waste volume, if not handled with a systematic approach, has the potential to increase leachate pollution, air pollution from methane gas, and impact the health of the surrounding community. This is in line with the findings of Arinda et al. (2023), which show that cities with limited TPA land and high waste generation rates have a greater risk of environmental pollution and TPA facility operational failure.

In response to this issue, the Malang City Government modernized its waste management system by implementing a sanitary landfill method at the Supit Urang landfill, replacing the long-standing practice of open dumping. The sanitary landfill method is a waste disposal system with impermeable layers, leachate control, methane gas monitoring, and standard operating procedures that prioritize ecological safety (Delgado et al., 2008; Hassan et al., 2023). Compared to open dumping, this method is much more environmentally friendly and safer in preventing soil and groundwater pollution. Several studies in Indonesia show that the implementation of sanitary landfills can reduce the risk of leachate pollution, reduce gas emissions, and improve the effectiveness of waste management (Astono et al., 2016; Putra & Jaya, 2022). Therefore, the implementation of this new method is an important milestone in local governments' efforts to create a better waste management system.

However, the success of sanitary landfill implementation is not only determined by the availability of physical infrastructure and supporting technology. Various studies show that the implementation of large-scale environmental policies is highly dependent on the capacity of human resources (HR) in the public sector as policy implementers in the field (Grindle, 2017;

Mazmanian & Sabatier, 1983). A good policy mandate will not be optimally implemented if the implementing agency has limitations in terms of technical competence, number of employees, work discipline, internal coordination, and the ability of leaders to direct and supervise policy implementation (Chalim & Rizani, 2018). Zubair et al. (2021), emphasize that the capacity of local bureaucracies, including the quality of HR management, has a direct relationship with public service performance, especially in highly technical policies such as waste management.

In the context of Malang City, the challenges of implementing a sanitary landfill at the Supit Urang site arise not only from technical constraints but also from a range of non-technical factors. Recent studies in Indonesia, including those focusing on Malang, have reported similar issues such as shortages of trained personnel, limited operational capacity in managing leachate treatment systems, and inconsistent adherence to established standard operating procedures (SOP'Ss). Budiono & Ratni (2023) found that workforce competency and operational discipline are critical determinants of landfill performance in Malang, while Anggraeni (2025), highlighted that inadequate human resource capacity and weak institutional arrangements remain major barriers to effective sanitary landfill operations in several East Java municipalities, including Malang. These findings reinforce the argument that HR-related constraints significantly influence the effectiveness of sanitary landfill implementation in the city. A study by Putra & Jaya (2022), on waste policy reform in Malang City also notes that the success of landfill management is largely determined by the quality of operational staff at the UPT level. Thus, the role of public sector human resource management is a key factor that cannot be separated from the effectiveness of sanitary landfill policy implementation (Megawati et al., 2025; Oosthuizen et al., 2019).

The management of the Supit Urang landfill involves a hierarchical organizational structure ranging from the Head of the Technical Implementation Unit (UPT), section heads, administrative staff, field officers, to heavy equipment operators (DLH, 2024). Each position has a strategic role in ensuring the continuity of sanitary landfill operations. However, various reports indicate an imbalance between the workload and the capacity of employees. The lack of technical training related to leachate management, compactor operation, and waste sorting processes has resulted in some field operational procedures not being carried out according to standards (Sudutkota.id, 2025). Previous studies have also shown that crucial stages of landfill operations are often disrupted due to a shortage of skilled human resources (Bachtiar et al., 2015; Turcott Cervantes et al., 2018).

In addition to competency issues, employee motivation and welfare factors also influence the effectiveness of policy implementation. In the regional bureaucratic structure, incentives and

rewards for employees are very limited due to budget constraints (Bryson et al., 2014). This phenomenon is clearly seen at the Supit Urang landfill, where employees do not receive special incentives despite high workloads and considerable environmental risks. This is in line with Herzberg's theory (2024), which emphasizes that the work motivation of public employees is influenced by intrinsic factors (responsibility, recognition, opportunities for development) and extrinsic factors (salary, working conditions, supervision). When working conditions at the landfill require high risks without adequate compensation, employee motivation can decline, thereby impacting the quality of policy implementation (Kudaibergenov et al., 2024).

Another obstacle that further undermines the effectiveness of policy implementation is the suboptimal internal and external communication patterns. In one of his models of public policy implementation, Edwards (1980) defines communication as the main determinant of policy success, because unclear instructions lead to distortions in implementation. In Supit Urang, instructions from leaders are often conveyed through short messages, which can lead to misinterpretation. This situation is exacerbated by the lack of public awareness of waste management policies since 2021, resulting in low public participation in waste sorting. In fact, sanitary landfills will only be effective if waste is sorted before disposal. Low public participation is also a major challenge in other municipal waste management systems in Indonesia (Purba & Erliyana, 2020).

From an institutional perspective, the absence of more detailed local regulations also affects the effectiveness of policy implementation. Although Malang City already has a Local Regulation on Waste Management, the Head of the Supit Urang Technical Implementation Unit (UPT) has emphasized in various field findings that this regulation is still not strong enough and does not provide detailed technical guidance on the operationalization of sanitary landfills. This is in line with Sabatier's (1983) research on the importance of regulatory support in shaping the stability of policy implementation. Without comprehensive regulations, implementers at the lower levels tend to adjust SOP'S's situationally, which has the potential to cause procedural deviations.

This condition shows that the implementation of sanitary landfills is both a technical and managerial policy, requiring good coordination between technical units, local governments, and the community. However, the core issue of the dynamics of this implementation lies in the capacity of public sector human resource management. According to Armstrong & Taylor (2014), public sector human resource management not only covers administrative aspects such as recruitment and placement, but also competency development, performance management, and transformational leadership that can drive organizational change. Thus, human resource capacity

plays a critical role in determining whether sanitary landfill technology can operate according to standards or experience operational failures.

The sanitary landfill approach as an environmental policy innovation requires organizational transformation, competency adaptation, and changes in work culture. Public organizations that are not prepared in terms of human resources will experience difficulties in operating new infrastructure, understanding technical regulations, or maintaining consistency in SOP'S's. Meanwhile, limited staffing, lack of training, lack of incentives, low motivation, and weak operational leadership will have a direct impact on the quality of implementation. A study by Zubair et al. (2021), shows that public organizations with low human resource management capacity tend to have inconsistent and unsustainable policy performance. In the context of the Supit Urang landfill, various field findings indicate that operational failures such as leachate contamination, suboptimal waste sorting, and lack of daily monitoring are not solely due to poor technology, but rather to human factors. Thus, understanding the role of public sector HRM is becoming increasingly urgent as a basis for analyzing the implementation of sanitary landfill policies.

Based on these conditions, this study focuses on how human resource management in the public sector influences the implementation of sanitary landfill policies in Malang City. This study is important because it will provide a comprehensive picture of the extent to which human resource capacity at the UPT level can support or hinder the success of the policy. In addition, this study makes an academic contribution by filling the gap in studies on the relationship between public sector HRM and policy implementation, particularly in the waste management sector, a topic that has been studied more from a technical perspective than a managerial one. By analyzing these dynamics, this research is expected to provide evidence-based policy recommendations to strengthen human resource capacity in landfill management and serve as a reference for local governments in formulating more effective and sustainable policy designs.

Research Methods

This study uses a qualitative approach with a case study design, as it aims to gain an in-depth understanding of the dynamics of sanitary landfill policy implementation in relation to human resource management practices in the public sector at the technical implementation unit level. A qualitative approach was chosen to enable in-depth exploration of the experiences, perceptions, and work practices of policy implementers in a complex operational context (Creswell, 2018; Yin, 2018). The focus of the research is directed at identifying how human resource capacity, which includes technical competence, motivation, supervision, leadership, and

bureaucratic communication patterns, plays a role in determining the effectiveness of policy implementation at the Supit Urang landfill (Hur, 2018; Kudaibergenov et al., 2024). Thus, this study provides a contextual understanding of the non-technical factors that influence the success of sanitary landfill-based waste management policies.

The research location was purposively selected at the Supit Urang Solid Waste Management Unit in Malang City, the only waste treatment facility implementing the sanitary landfill method in the region. This site was chosen because it possesses an organizational structure, workload characteristics, technical procedures, and operational challenges that are highly relevant to examining HR-based policy implementation. Research informants were identified using purposive sampling, targeting individuals with direct experience, authority, or substantive insight into policy implementation processes within the facility. A total of 12–15 informants were included in the study, comprising the Head of the Supit Urang Landfill UPT, the Head of Administration, heavy equipment operators, waste-sorting officers, field workers, administrative personnel, and community representatives living around the landfill. The number of informants was adjusted following the principle of data saturation, reached when additional interviews no longer produced new or substantive information. To enhance the credibility of findings, member checking was conducted by presenting key interview summaries and preliminary interpretations back to selected informants to confirm accuracy, clarify statements, and ensure the validity of core themes.

Data collection was conducted through in-depth interviews, field observations, and documentation studies. Semi-structured interviews were used to explore implementer's experiences related to human resource capacity, SOP'S implementation, supervision, and operational obstacles. Observations were conducted to understand work behavior, interaction patterns, and technical practices in the landfill area, leachate treatment plant, and sorting area. Meanwhile, the documentation study included an analysis of SOP'S's, organizational structures, DLH reports, waste volume data, and UPT internal archives. Data analysis was conducted using the interactive model of Miles, Huberman, and Saldaña (2014), which included data reduction, data presentation, and conclusion drawing. Data validity was strengthened through source triangulation, method triangulation, and member checking to ensure the accuracy of the findings. Using this method, the study was able to present a comprehensive picture of the relationship between public sector HR management and the implementation of sanitary landfill policies in Malang City.

Results and Discussion

Human Resource Capacity in Sanitary Landfill Implementation

The capacity of human resources at the Supit Urang TPA UPT is a crucial aspect in determining the success of the implementation of the sanitary landfill policy in Malang City. Although this facility has been equipped with more modern waste management technology, field research shows that the ability of employees to understand technical procedures, carry out operational instructions, and maintain consistency in implementing SOP'S's is the main determinant of the effectiveness of this policy (Dwinati et al., 2019). In other words, the success of the sanitary landfill method is not only determined by the quality of the infrastructure, but rather depends heavily on the readiness and capacity of the HR who carry out its operations (Turcott Cervantes et al., 2018).

From interviews with the Head of the Supit Urang Landfill Unit, it is known that this unit has a large and diverse number of employees, ranging from cleaners, waste sorters, heavy equipment operators, compost processors, to administrative staff. However, the large number of employees does not automatically reflect a high level of technical capacity in landfill management. Many employees carry out their duties based on experience gained over time (learning by doing) without ever receiving formal training on the mechanisms of sanitary landfill operations, including waste compaction techniques, cover soil layer arrangement, and leachate management at the Leachate Treatment Plant (LTP) installation. This imbalance in technical capabilities makes it impossible to consistently implement several important procedures.

The limitations of employees' technical capabilities are increasingly felt when linked to the high volume of waste entering the Supit Urang landfill. Data recorded in city documents shows that during the 2021–2023 period, the daily amount of waste in Malang City continued to increase from around 677 tons to more than 778 tons per day. This volume not only increases the physical workload of employees, but also demands higher operational consistency in compaction, landfill zone arrangement, and environmental impact control. Under such heavy workloads, employees who do not have adequate competencies tend to find it difficult to maintain the operational rhythm according to standards, so that some procedures such as daily compaction or leachate monitoring cannot be carried out optimally.

Theoretically, this condition illustrates the weakness of human resource capacity in policy implementation. Mazmanian and Sabatier emphasize that the technical capabilities and professionalism of policy implementers are among the most important factors determining the success of implementation in the field. Meanwhile, Armstrong's theory of public sector HRM

shows that human resource capacity encompasses not only the number of employees but also the quality of training, authority, and the suitability of competencies to job requirements. The findings of this study indicate that the human resource capacity at the Supit Urang TPA UPT is still not fully in line with sanitary landfill operational standards, which has a direct impact on the effectiveness of policy implementation.

In addition, the existing division of tasks and work structure does not fully reflect the efficiency required in modern landfill management. Some employees have to perform multiple operational functions due to the limited number of technical personnel who truly understand the landfill process. This condition affects the speed of response to operational problems, such as when there is leachate accumulation, heavy equipment damage, or waste accumulation in certain zones. Delays in handling these technical issues not only reduce the effectiveness of the landfill but also increase the risk of environmental impacts.

Thus, it can be concluded that the capacity of human resources at the Supit Urang Landfill Technical Implementation Unit remains one of the biggest challenges in the implementation of sanitary landfill policies. Limited technical training, high workloads, disproportionate task distribution, and a lack of in-depth knowledge about landfill operations are serious obstacles that must be addressed immediately. If human resource capacity is not strengthened, it will be difficult to consistently achieve the effectiveness of the sanitary landfill method, even though the city of Malang already has supporting infrastructure in place.

Public Employee Motivation and Implementation Performance

Employee motivation is one of the factors that greatly determines the quality of sanitary landfill policy implementation at the Supit Urang TPA UPT. Although this UPT can be said to be relatively complete in terms of its human resource structure, the results of the study show that the enthusiasm and commitment of employees in carrying out their operational duties have not reached an optimal level. Employee motivation appears to be low due to the absence of an incentive system, performance awards, or other compensation that is usually given to public employees working in high-risk environments (Rulianti & Nurpibadi, 2023). This condition greatly affects the consistency of employees in implementing sanitary landfill SOP's's, which require high accuracy and discipline.

One of the causes of this low motivation is the limited operational budget. The head of the UPT said that incentives could not be given because the budget received by the UPT was not even half of the ideal amount. A similar statement was made by the Head of Administration, who

emphasized that there was no budget item for employee incentives. This condition illustrates that employees carry out heavy duties without adequate financial compensation. In Herzberg's theory, factors such as compensation, work facilities, and environmental conditions are hygiene factors which, if not met, will cause job dissatisfaction and a decline in employee commitment. To clarify these findings, table 1 presents the results of interviews related to employee motivation.

Table 1. Interview Results In Motivation Indicators

No.	Informant	Key Statement	Context of Motivation
1.	Head of Technical Implementation Unit (Arif Dermawan)	"The operational budget is limited... there are no incentives."	There are no financial incentives that significantly reduce employees' extrinsic motivation.
2.	Head of Administration (Aprilia Reni Wulandari)	"There are no incentives because funds are limited."	Reaffirmation that there is no additional financial support to motivate employees.
3.	Head of Technical Implementation Unit (continued)	"We strive to provide adequate facilities so that employees remain comfortable and motivated."	Non-financial compensation is provided, but it does not sufficiently offset the workload and job risks.
4.	Field staff (based on general interview results)	"Work based on instructions without specific recognition."	Employees work merely to fulfill formal obligations; internal motivation weakens.

Source: Processed by researchers from direct interview results, 2025.

Table 1 shows that all key informants described the same motivational situation. Although the study involved seven informants, only four are presented in Table 1. This selection follows an academic rationale based on representativeness and analytical significance: the four informants included (the Head of UPT, the Head of Administration, and two operational staff perspectives) represent distinct hierarchical levels and core functional roles directly linked to motivation processes, budget authority, administrative budgeting, supervisory insight, and frontline operational experience. According to qualitative sampling principles, especially those outlined by Miles, Huberman, & Saldaña (2014) presenting informants who offer the most information-rich, policy-relevant, and analytically varied perspectives is more valuable than presenting all informants exhaustively. The remaining informants provided supportive but repetitive information, thus were excluded from the table to maintain analytical clarity and avoid redundancy in reporting. The absence of incentives meant that employee motivation depended entirely on personal responsibility and leadership guidance, rather than structural support. However, in high-risk jobs such as landfill management, employee motivation requires adequate financial support and structural rewards.

This low level of motivation has a direct impact on the implementation of sanitary landfill policies. Employees tend to work at a minimum level of compliance, doing only what is necessary according to instructions without any incentive to achieve higher performance standards. This is

evident in the inconsistency of the waste compaction process, the lack of regular cleaning of leachate channels, and the lack of proactivity in monitoring potential pollution. These findings reinforce Edward III theory regarding implementer disposition, namely that the attitudes and willingness of individual implementers have a significant effect on the effectiveness of implementation.

Non-financial compensation efforts from leaders, such as providing work facilities and creating a comfortable working atmosphere, although having a positive effect, have not been able to fully increase employee motivation in a sustainable manner. This shows that more strategic HR management policies are needed, either through financial incentives, performance-based reward systems, or career development training so that the implementation of sanitary landfills can run more effectively and in accordance with standards (Armstrong & Taylor, 2014; Purba & Erliyana, 2020). Thus, public employee motivation is one of the critical variables that determine the success of sanitary landfill policy implementation. Without adequate motivational support, SOP'S implementation is prone to quality decline. The results of this study indicate that waste management policies require not only good infrastructure or regulations, but also greater attention to the welfare, appreciation, and psychological conditions of policy implementers in the field.

Leadership, Communication, and Supervision of Policy Implementation

Leadership is an important element in determining the success of sanitary landfill policy implementation at the Supit Urang TPA UPT. From the results of the study, it can be seen that the role of the Head of the UPT is very dominant in regulating workflows, providing direction, and ensuring the continuity of daily operations. The Head of the Technical Implementation Unit exercises an adaptive leadership style, striving to adjust to changing field conditions by providing instructions quickly, mainly through communication media such as WhatsApp. This leadership model demonstrates the flexibility required in the context of landfill management, given the many technical conditions that require rapid response (Kgatle, 2018; van Wart et al., 2019). However, this flexibility means that the structure of instructions is often informal and not systematically documented.

The interview results show that overly informal communication has the potential to cause multiple interpretations among employees. Some leadership directives are conveyed briefly through text messages, which in practice can be interpreted differently by field employees. This causes the implementation of SOP'S's to not always be consistent between shifts or between work units. From the perspective of Edward III's implementation theory, unclear and inconsistent communication can lead to slippage or policy deviation, as field implementers make their own

adjustments based on their individual interpretations. In other words, although the frequency of communication is relatively high, the quality of communication does not fully support the effectiveness of policy implementation.

On the other hand, the supervisory function at the Supit Urang TPA UPT is also not yet running optimally. Supervision carried out by leaders or section heads tends to be situational, usually carried out when problems arise or when the volume of waste increases dramatically. However, in the management of sanitary landfills, strict and scheduled monitoring of landfill conditions is required, especially with regard to waste compaction, leachate channel conditions, and the safety of the active landfill area. The lack of systematic supervision means that some technical procedures are only carried out when necessary, rather than according to the schedule set out in the SOP'S. As a result, consistency in implementation is disrupted.

Table 2. Results Of Direct Interviews In Leadership Indicators

No.	Informant	Key Statement	Leadership and Supervision Context
1.	Head of Technical Implementation Unit	"Usually, if there is anything, I quickly send a message via WhatsApp so that it can be handled immediately."	Responsive leadership, but informal communication can be open to interpretation.
2.	Head of Technical Implementation Unit	"I try to make sure they are comfortable, and we provide as many facilities as possible."	Leaders use non-financial compensation as a form of motivational support.
3.	Administration Staff	"Sometimes instructions via WhatsApp vary, so we adjust accordingly."	There is no formal documentation of instructions, leading to variations in SOP'S implementation.
4.	Field Staff	Technical instructions are often given verbally and vary depending on the circumstances.	Unstructured supervision, which reduces operational consistency.

Source: Processed by researchers from direct interview results, 2025.

Table 2 shows that the leadership style at the Supit Urang Sanitary Landfill Unit still relies on speed and flexibility, but lacks documentation, clear instructions, and formal supervision. This informal communication model causes SOP'S implementers to interpret instructions differently, resulting in inconsistent policy implementation. In a technical and risky work context such as a sanitary landfill, this condition can have a significant impact on operational quality. This finding is in line with public administration literature which states that technical service-based organizations require systematic operational leadership, not just communicative leadership (Kgatle, 2018; van Wart et al., 2019). Field observations show that technical decisions often depend on employee experience, rather than written instructions or structural supervision. This reinforces the gap between policy design and field practice (policy-practice gap).

In the context of public sector HRM theory, leadership and supervision are important managerial tools for shaping employee behavior. When leadership does not provide structured direction, employees will make decisions based on their intuition or experience, which are not always in line with technical standards. On the other hand, lax supervision reduces accountability mechanisms, allowing SOP'S violations to occur without correction. Overall, this study shows that

the effectiveness of sanitary landfill implementation is greatly influenced by the quality of leadership, communication, and supervision at the Supit Urang TPA UPT. To ensure that policies are implemented in accordance with environmental standards, a more systematic leadership style, well-documented communication, and regular supervision based on technical indicators are required. Without improvements in these three aspects, it will be difficult for the implementation of the sanitary landfill method to achieve consistent quality and comply with applicable regulations.

Compliance with Sanitary Landfill Program Standard Operating Procedures

One of the important findings in this study is the significant gap between the sanitary landfill Standard Operating Procedures (SOP'S) stipulated in regulations and technical guidelines, and the actual practices at the Supit Urang Landfill Unit in Malang City. Ideally, the sanitary landfill method should be implemented based on strict technical principles, ranging from daily waste compaction, waste covering using cover soil, scheduled leachate management, to monitoring gas activity and groundwater quality in the landfill area. However, observations and field interviews show that not all of these procedures can be implemented consistently, mainly due to limitations in human resources, heavy equipment, and dynamic operational conditions.

The SOP'S stipulates that waste entering the landfill must first be compacted daily to prevent accumulation, minimize odors, and reduce the risk of fire. However, interviews with heavy equipment operators and UPT staff revealed that compaction is not always carried out daily. On some days, compaction is only done once, and there are even times when compaction is done periodically depending on the volume of waste entering the landfill. This is mainly due to the limited number of operators and heavy equipment, which is not always in prime condition. With the volume of waste in Malang City increasing every year, the operational capacity to cover the entire landfill zone is becoming increasingly limited.

In addition to compaction, the SOP'S also regulates the covering of waste with cover soil on a regular basis to reduce exposure to air, maintain soil stability, and prevent environmental pollution. However, observations show that cover soil is not always available in sufficient quantities, so the covering process is often delayed. When waste volumes are very high, the available cover soil is prioritized for certain areas only. This results in some landfill zones remaining open without adequate covering, increasing the risk of foul odors and the emergence of disease vectors.

Leachate management also shows inconsistencies between the SOP'S and practice. SOP'S's require regular cleaning of leachate channels and checking of storage tanks, but

interviews show that checking and cleaning are carried out based on the level of flooding, not on a regular schedule. This means that when leachate flooding increases, only then do officers come down to clean up. This reactive approach risks causing leachate leaks or overflows that can pollute the surrounding environment before they are dealt with.

Table 3. Analysis of SOP'S's in the Sanitary Landfill Program

No.	Indicators	Standart	Field practice	Causes of Incompatibility
1.	Waste compaction	Performed daily	Not always daily; depends on the volume of waste	Limitations of operators and heavy equipment
2.	Land closure	Periodic closure according to active zones	Not always done; limited cover soil	Prioritization of certain areas; material limitations
3.	Leachate management	Periodic cleaning and monitoring	Done when flooding is high	Reactive approach due to lack of staff and time
4.	Waste sorting	Performed before landfill	Much sorting is done by scavengers, not conveyor systems	Sorting system not yet optimal
5.	Landfill monitoring	Daily supervision by officers	Not always done	Unscheduled supervision

Source: Compiled by the author from interview results, 2025.

This discrepancy between SOP'S's and field practices reflects a phenomenon described by Lipsky's street-level bureaucracy theory, which states that implementers in the field often make adjustments to formal policies due to limited resources, time, and structural support. At the Supit Urang landfill, frontline implementers must make pragmatic decisions based on field conditions, even if these decisions deviate from ideal SOP'S's. This gap also reinforces the findings in the previous section that HRM aspects such as limited technical competence, low work motivation, weak supervision, and unstructured communication greatly affect the quality of policy implementation. Without adequate human resources and strong operational support, well designed SOP'S's cannot be implemented consistently. The impact is that the implementation of sanitary landfills is suboptimal, so that several environmental risks such as odor, leachate, and lack of landfill stability still often occur.

Overall, this subchapter shows that the effectiveness of sanitary landfill policies is not only determined by the perfection of SOP'S's, but is largely determined by the ability of organizations and human resources to implement these SOP'S's in a disciplined and sustainable manner. The discrepancy between SOP'S's and field practices is an important indicator that the implementation approach needs to be strengthened through human resource capacity building, improved supervision, and the provision of adequate technical resources.

Conclusion

This study shows that the successful implementation of sanitary landfill policies at the Supit Urang Landfill Unit in Malang City is highly dependent on the capacity of human resources (HR) in the public sector. Although sanitary landfill technology and infrastructure have been implemented, the ability of employees to understand technical procedures, properly implement SOP'S's, and manage the increasing volume of waste remains a major challenge. Limited formal training, an imbalance in workloads, and uneven technical skills often result in policy implementation that does not meet standards, preventing the consistent optimization of landfill functions.

In addition, the study found that the motivation of public employees plays an important role in influencing the consistency of policy implementation. The absence of incentives, performance rewards, or financial compensation for high-risk work has led to a decline in employees' disposition to carry out SOP'S's. The impact is evident in the emergence of minimum compliance practices and irregularities in the implementation of daily operational tasks. This is exacerbated by informal leadership and internal communication patterns, as well as unsystematic supervision. These conditions make the implementation of SOP'S's highly dependent on individual interpretation, resulting in variations in implementation between work units.

Furthermore, this study reveals a clear gap between sanitary landfill SOP'S's and field practices, which is influenced by a combination of human resource factors and operational limitations. Waste compaction is not always carried out daily, leachate management is reactive, and waste sorting procedures are not yet optimal. This gap shows that good technical policies are not enough without strong human resource management support. This study concludes that technical capacity, motivation, leadership, and HR supervision are determining factors for the successful implementation of sanitary landfills. Therefore, strengthening public HR management through technical training, improving welfare, formal communication mechanisms, and structured supervision systems needs to be a priority in efforts to improve the effectiveness of waste management in Malang City.

References

- Anggraeni, M. (2025). Analisis Tematik Kebijakan Pengelolaan Sampah Berbasis Partisipatif Menuju Ekonomi Sirkular di Kota Malang. *I-Com: Indonesian Community Journal*, 5(1), 309–322. <https://doi.org/10.70609/icom.v5i1.6477>
- Arinda, E., Sitogasa, P. S. A., Fadilah, K., & Lukita, C. W. (2023). Perencanaan Pembangunan Tempat Pemrosesan Akhir Sampah Juata Kerikil Dengan Sistem Sanitary Landfill Di Kota Tarakan Kalimantan Utara. *Environmental Engineering Journal ITATS*, 3(1), 29–38. <https://doi.org/10.31284/j.envitats.2023.v3i1.3791>
- Armstrong, Michael., & Taylor, Stephen. (2014). *Armstrong's Handbook Of Human Resource Management Practice, 13th edition*. Kogan Page.
- Astono, W., Purwaningrum, P., & Wahyudyanti, R. (2016). Perencanaan Tempat Pembuangan Akhir Sampah Dengan Menggunakan Metode Sanitary Landfill Studi Kasus : Zona 4 Tpa Jatiwaringin, Kabupaten Tangerang. *Indonesian Journal Of Urban And Environmental Technology*, 7(1), 7–16. <https://doi.org/10.25105/urbanenvirotech.v7i1.711>
- Bachtiar, H., Hanafi, I., & Rozikin, M. (2015). Pengembangan Bank Sampah Sebagai Bentuk Partisipasi Masyarakat Dalam Pengelolaan Sampah (Studi Pada Koperasi Bank Sampah Malang). *JAP FIA UB*, 3(1), 128–133.
- Bryson, J. M., Crosby, B. C., & Bloomberg, L. (2014). Public Value Governance: Moving Beyond Traditional Public Administration and The New Public Management. *Public Administration Review*, 74(4), 445–456. <https://doi.org/10.1111/puar.12238>
- Budiono, D. I. L., & Ratni, N. (2023). Life Cycle Assessment (Lca) Pengolahan Sampah Proses Termal Pada Tempat Pemrosesan Akhir (Tpa) Supit Urang Kota Malang. *Envirous*, 1(2), 59–66. <https://doi.org/10.33005/envirous.v1i2.38>
- Chalim, S., & Rizani, F. (2018). Motivation And Commitment As Influential Factors In A Taxation Department And The Way They Affect Employee Performance: A Survey Study In A Taxation Department In Indonesia. *Open Psychology Journal*, 11(1), 261–270. <https://doi.org/10.2174/1874350101811010261>
- Creswell, J. W. (2018). *Research Design : Qualitative, Quantitative and Mix Methods Approaches* (5th ed.). Sage Publications.
- Delgado, O. B., Mendoza, M., Granados, E. L., & Geneletti, D. (2008). Analysis Of Land Suitability For The Siting Of Inter-Municipal Landfills In The Cuitzeo Lake Basin, Mexico. *Waste Management*, 28(7), 1137–1146. <https://doi.org/10.1016/j.wasman.2007.07.002>
- DLH. (2024). *Transformasi TPA Supiturang Kota Malang*. Dinas Lingkungan Hidup Kota Malang.
- Dwinati, B. N., Surati, S., & Furkan, L. M. (2019). Pengaruh Beban Kerja Dan Kompensasi Terhadap Kinerja (Studi Pada Karyawan Operasional Pengangkutan Sampah dinas

- Kebersihan Kota Mataram). *Jmm Unram - Master Of Management Journal*, 8(1), 86–100. <https://doi.org/10.29303/jmm.v8i1.415>
- Edwards, G. C. (1980). *Implementing public policy*. Congressional Quarterly Press.
- Grindle, M. S. . (2017). *Politics and Policy Implementation in the Third World*. Princeton University Press.
- Hassan, G. K., Gad-Allah, T. A., Badawy, M. I., & El-Gohary, F. A. (2023). Remediation Of Ammonia-Stripped Sanitary Landfill Leachate By Integrated Heterogeneous Fenton Process And Aerobic Biological Methods. *International Journal Of Environmental Analytical Chemistry*, 103(18), 7287–7300. <https://doi.org/10.1080/03067319.2021.1969381>
- Hur, Y. (2018). Testing Herzberg's Two-Factor Theory of Motivation in the Public Sector: Is it Applicable to Public Managers? *Public Organization Review*, 18(3), 329–343. <https://doi.org/10.1007/s11115-017-0379-1>
- Kgatle, M. S. (2018). Servant Leadership: An Urgent Style For The Current Political Leadership In South Africa. *Verbum Et Ecclesia*, 39(1). <https://doi.org/10.4102/ve.v39i1.1815>
- Kudaibergenov, Z., Bolatova, B., Kurmanalina, A., & Balginova, K. (2024). Analyzing The Influence Of Hygienic And Motivating Factors On Employee Performance: Insights Of HRM Practices From University And Industry Settings. *Journal Of Eastern European And Central Asian Research (JEECAR)*, 11(2), 202–217. <https://doi.org/10.15549/jeecar.v11i2.1429>
- Mazmanian, D. A. ., & Sabatier, P. A. . (1983). *Implementation and public policy*. Scott, Foresman.
- Megawati, S., Alfarizi, M., Wardana, L. I. S. F., & Kurniawan, B. (2025). Policy Recommendations For The Development Of Efficient And Smart Waste Management Systems To Support Sustainable Cities Based On The Sdgs. In N. Suprpto, B. K. Prahani, S. Andari, M. A. Ghofur, & M. Satriawan (Eds.), *E3S Web of Conferences* (Vol. 640). EDP Sciences. <https://doi.org/10.1051/e3sconf/202564001007>
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). The Analysis of Qualitative Data. In H. Salmon (Ed.), *An Introduction to Multivariate Techniques for Social and Behavioural Sciences* (3rd ed., Issue 1). SAGE Publications, Inc. https://doi.org/10.1007/978-1-349-15634-4_8
- Oosthuizen, H., Willett, R., Wilmschurst, T., & Williams, B. (2019). The Constraining Effect Of Incomplete Contracts On The Public Reporting Of Waste Management Data. *Australasian Journal of Environmental Management*, 26(4), 370–385. <https://doi.org/10.1080/14486563.2019.1645751>
- Pemkot Malang. (2024). 98,68 Persen Timbulan Sampah di Kota Malang Berhasil Dikelola. Pemerintah Kota Malang.
- Purba, L. A. H., & Erliyana, A. (2020). Legal Framework of Waste Management in Indonesia. *Proceedings of the International Conference on Law, Governance and Islamic Society (ICOLGIS 2019)*. <https://doi.org/10.2991/assehr.k.200306.191>
- Putra, I. M. A. W. W., & Jaya, A. P. (2022). Reform Regional Regulations of Malang City in Waste Management. *ICONISS (International Conference in Social Science)*, 3(23). <https://doi.org/https://doi.org/10.26905/iconiss.v3i1.9682>

- Rulianti, E., & Nurpribadi, G. (2023). Pengaruh Motivasi Kerja, Lingkungan Kerja dan Pengembangan Karir Terhadap Kepuasan Kerja Karyawan. *Jesya*, 6(1), 849–858. <https://doi.org/10.36778/jesya.v6i1.1011>
- Sudutkota.id. (2025, October 17). *DLH Kota Malang Siapkan Supit Urang Dua Opsi Teknologi Pengolahan Sampah*. Dinas Lingkungan Hidup Kota Malang.
- Turcott Cervantes, D. E., López Martínez, A., Cuartas Hernández, M., & Lobo García de Cortázar, A. (2018). Using Indicators As A Tool To Evaluate Municipal Solid Waste Management: A Critical Review. *Waste Management*, 80, 51–63. <https://doi.org/10.1016/j.wasman.2018.08.046>
- UNEP. (2023). *Handbook for Delegates to the United Nations Environment Assembly*.
- Van Wart, M., Roman, A., Wang, X., & Liu, C. (2019). Operationalizing the definition of e-leadership: identifying the elements of e-leadership. *International Review of Administrative Sciences*, 85(1), 80–97. <https://doi.org/10.1177/0020852316681446>
- World Bank. (2021). *Plastic Waste Discharges From Rivers And Coastlines In Indonesia*. www.worldbank.org
- Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods* (6th ed.). Sage Publications.
- Zubair, S. S., Khan, M. A., & Mukaram, A. T. (2021). Public Service Motivational and Organizational Performance: Catalyzing Effects Of Altruism, Perceived Social Impact And Political Support. *PLOS ONE*, 16(12), e0260559. <https://doi.org/10.1371/journal.pone.0260559>