



(RESEARCH ARTICLE)



Analysis of the revenue collection system for waste retribution management in Sudirejo 1 Sub-district, Medan Kota District

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World Journal of Advanced Research and Reviews, 2025, 27(01), 1783-1790

Publication history: Received on 11 June 2025; revised on 15 July 2025; accepted on 17 July 2025

Article DOI: <https://doi.org/10.30574/wjarr.2025.27.1.2706>

Abstract

This research discusses the community waste revenue management retribution system in Sudirejo 1 Medan Kota Urban Village. The data collected shows that the system has been running consistently from 2019 to 2023, with an effectiveness rate of 100%, and is able to achieve the retribution collection target regularly every month. The system follows official procedures, including collection through SKRD documents and direct deposit of funds to the local treasury. Despite facing obstacles such as lack of community awareness and supervision, the system is still running well and contributing positively to waste management in the region. This study confirms that the success of this system is supported by strict regulations and structured implementation, but further improvement of community awareness and supervision is needed to ensure sustainability and increased effectiveness of waste management in the future.

Keywords: Waste collection system; Targets and realization of retribution; Collection procedures and mechanisms; Transparency and Accountability; Sanctions and Enforcement of Rules

1. Introduction

The environment is a resource that can be utilized for wisdom and as a place of refuge. Many factors lead to increased environmental pollution, including the increasing volume of garbage and factory waste that continues to produce waste that can pollute the environment. Garbage is defined as excess or rejected material or waste that has no value or is worthless for routine or primary use in the production of damaged or defective goods.

Waste management is a crucial issue in various regions, especially in urban areas, which has a direct impact on environmental quality, public health, and city aesthetics. Along with the increase in population and economic activities, the volume of waste generated continues to grow, demanding an effective and sustainable management system. One of the main pillars in sustainable waste management is the availability of adequate funding, most of which is expected to come from waste retribution. Waste retribution is a regional levy as payment for waste/cleanup services provided or rendered by the Local Government.

However, in practice, the waste retribution collection system is often faced with various challenges, ranging from lack of public awareness to pay, inaccurate data on retribution payers, unoptimized collection mechanism, to low compliance level. As a result, the potential local revenue from the waste retribution sector is not maximized, which in turn can hamper efforts to improve the quality of waste management services. This gap between potential and realized revenue raises critical questions about the effectiveness of the existing collection system.

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The waste production of Medan City residents can reach 2,000 tons per day. However, only around 800 tons can be handled and taken to the landfill, while the rest, around 1,200 tons, has the potential to pollute the environment if not managed properly.

To accommodate 2,000 tons per day, adequate infrastructure is needed so that waste is not scattered and disorganized. The Medan City government provides waste transportation infrastructure such as becak sampah and garbage trucks. If we assume that the distribution of waste production is proportional to the population, and Kelurahan Sudirejo I has about 10,000 inhabitants (about 2% of the total population of Medan Kota Sub-district), then this kelurahan can be estimated to produce about 40 tons of waste per day. Waste from Kelurahan Sudirejo I is transported to TPA Terjun, which is located in Kelurahan Terjun, Medan Marelان Sub-district. The distance from Medan Kota sub-district to Terjun landfill is about 21 km. Waste management in Kelurahan Sudirejo 1 is still inadequate, as evidenced by the growing mounds of waste, the lack of public knowledge about waste segregation, the inadequate supervision of TPS in Kelurahan Sudirejo 1, and the lack of TPS in many villages. Because each resident has a different source of waste, the amount of waste will continue to grow if the population increases. Because there are several piles of garbage and a population of more than 10%, the author chose Kelurahan Sudirejo 1 as the research location. Therefore, this study aims to conduct an in-depth analysis of the waste retribution revenue collection system. This analysis will include an evaluation of the prevailing regulations, standard operating procedures (SOPs), and standard operating procedures (SOPs).

The results of this study are expected to provide a comprehensive overview of the existing conditions, identify the root causes of the problems, and formulate strategic recommendations for improving the waste collection system to be more effective, efficient, and accountable in the future. It is hoped that the results of this study can provide a comprehensive overview of the existing conditions, identify the root causes of problems, and formulate strategic recommendations for the improvement of a more effective, efficient, and accountable waste retribution collection system in the future. Thus, an increase in revenue from waste retribution can support the realization of optimal and sustainable waste management for the welfare of the community and environmental sustainability.

2. Literature Review

2.1. Definition of Waste Collection System

The waste retribution collection system refers to the overall mechanisms, procedures, and instruments used by the local government or its designated agency to collect payments from the public for waste management and cleaning services provided. It includes a series of organized steps to ensure that the levies set are collected effectively and efficiently.

In general, this system includes:

- Data collection of retribution payers (individuals or entities receiving services).
- Determination of retribution amount based on waste volume, service recipient class, number of people, or building area.
- Collection and payment of retribution, which can be done through various methods, such as payment to BUMDES, kelurahan, or appointed private parties.

2.2. Depositing the collection proceeds to the regional treasury as local revenue.

The main objective of the waste retribution collection system is to create a sustainable source of revenue for local governments to finance operations and investments in waste management, while encouraging community participation in maintaining a clean environment. The effectiveness of this system determines the financial sustainability of waste services.

2.3. Flowchart of Garbage Retribution Collection

The flowchart of waste retribution collection is as shown below:

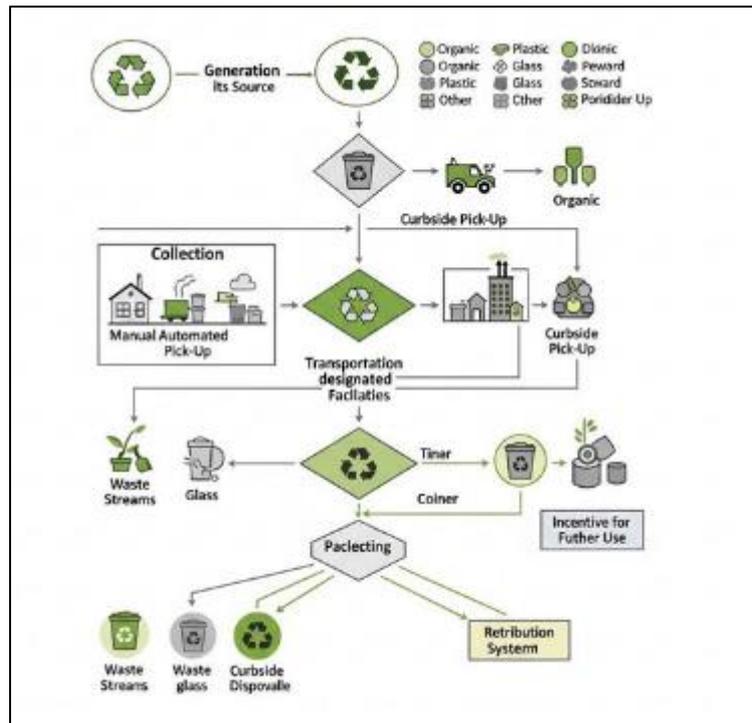


Figure 1 Waste Retribution Collection

The waste collection process begins with identifying the locations of waste accumulation, such as residential areas, markets, and public facilities. This identification is important so that transportation can be carried out efficiently and evenly. Once the location is determined, a waste pickup schedule is prepared by the urban village or cleaning service. This schedule is made based on the level of waste production and the needs of each area, for example, pick-ups are carried out every day or several times a week.

Furthermore, the garbage collectors are assigned according to the scheduled area and time. They then come to the location as scheduled to carry out the transportation. Upon arriving at the location, the officer will ascertain whether the waste is available or not. If the waste is available, then the transportation is carried out by loading the waste into the operational vehicle. If there is no waste at the location, the officer will record the condition as part of the daily work report.

The waste that has been transported is then brought to a temporary disposal site (TPS) for initial storage. At the TPS, waste can be sorted according to its type, such as organic and inorganic. After the sorting process, the waste will be moved to the Final Disposal Site (TPA) for final processing such as burial, burning, or recycling.

Finally, all activities carried out by officers during the collection process will be recorded in a daily report as a form of documentation and performance evaluation. After that, the process is considered complete and ready to be repeated in the next period according to the predetermined schedule.

3. Research Methods

This research was conducted at the Sudirejo I Medan Kota Urban Village Office. To achieve the desired goal, the approach used in this research is a qualitative approach with qualitative descriptive methods. Regarding data and information collection techniques used by researchers in this study, namely: Interview, Observation, and Documentation. In this study, the key informants and accompanying informants are: 1) Head of Waste Handling Division, 2) Retribution Officer, 3) Residential Community, 4) Business/Shop Owners Community.

Analysis Method and Process, is the data analysis method that will be used. The purpose of this method is to compare, describe, and describe and explain a material, evidence or data and then examine it, so that we can produce conclusions in accordance with existing data. To determine the level of effectiveness, contribution, waste retribution to local revenue, we use the following formula:

3.1. Effectiveness of Solid Waste Retribution

$$\frac{\text{Retribution Realization}_i}{\text{Retribution Target Realization}_i} \times 100\%$$

The operational table illustrates the waste retribution collection system based on the study results from various sources:

Table 1 Waste Collection System

| Aspect Operational | Description | Examples/Details |
|-----------------------|--|--|
| Retribution Object | Waste management services provided to the community or business entities. | Transportation of waste from the source to the TPS/TPA, provision of environmental cleaning services. |
| Retribution Mandatory | Individuals, households, businesses, and institutions that receive waste management services. | Housing, shops, showrooms, hospitals, gas stations, hotels. |
| Rate Setting | Based on object class and class, using a fixed monthly rate or based on waste volume. | Rates per month: Simple house Rp6,000, Luxury house Rp15,000, Shop Rp30,000, Large gas station Rp250,000 |
| Collection Method | Billing and receiving payment from retribution payers. | Payment through BUMDes, Kelurahan, or private parties. |
| Collection Flow | 1. Data collection of retribution payers 2. Tariff determination 3. Notice of billing 4. Payment 5. Recording 6. Deposit to the regional treasury | Example: Community pays to BUMDES - BUMDes transports waste - BUMDES deposits to Environmental Agency |
| Supporting Documents | Surat ketetapan retribusi (SKRD), ticket, coupon, subscription card. | SKRD issued monthly, payment ticket as proof |
| Payment Time | Payment is made regularly, usually monthly. | Payment no later than the 10th of each month. |

The table above summarizes important aspects in the operation of waste retribution collection systems commonly implemented by local governments in Indonesia, including payment mechanisms, tariffs, documents, and administrative sanctions.

4. Research Results and Discussion

Medan City is one of the cities in North Sumatra Province, Indonesia, which was officially established on July 1, 1590. The Regional Finance and Asset Agency (BKAD) of Medan City is a local government agency responsible for financial and asset management within the Medan City Government. The establishment and implementation of BKAD's duties are regulated by various laws and regulations, both at the national and local levels. Law Number 23 Year 2014 on Regional Government, which regulates the division of government affairs between the central and regional governments, including regional financial management.

Solid Waste Retribution in Medan City. Solid waste retribution in Medan City is regulated in Medan City Local Regulation (Perda) Number 1 Year 2024 on Regional Taxes and Levies. This Perda revokes and replaces the previous Perda, namely Perda Number 10 Year 2012 on Retribution for Cleaning Services.

4.1. Waste Retribution Revenue System and Procedure

Payment of waste retribution can be made directly to the kelurahan officer in charge of collecting the retribution on a monthly basis. The collection result is then deposited to the kelurahan treasury and recorded systematically to ensure transparency and accountability.

However, several obstacles were found such as the lack of public awareness in paying waste retribution, less optimal enforcement of sanctions for non-paying retribution payers. From the revenue side, the data shows that the realization of waste retribution in Sudirejo 1 urban village has reached the expected target.

The waste retribution collection system in Kelurahan Sudirejo 1, Medan Kota, has generally followed the procedures stipulated in the regional regulation and mayor's regulation. The collection mechanism implemented includes identification of retribution payers, issuance of payment documents, routine collection by urban village officers, and reporting of collection results to the regional treasury. The following table shows the operational result system of waste retribution realization from 2019-2023 in Kelurahan Sudirejo 1, Medan Kota, namely:

4.2. Regulation or Regional Regulation

There are several regional articles regarding the retribution of waste revenue management:

4.2.1. Article 15

- Every individual or organization is required:
 - Keep the environment and surrounding rivers clean.
 - Keeping live and dead fences in good condition.
 - Collect garbage and store it in self-provided garbage bins that are easily accessible by the cleaning staff.
 - Residents who live in alleys that cannot be reached by direct waste transportation, should place the packaged waste in the appropriate TPS.
 - Collect waste generated in special containers and put it in the TPS for daily traders and itinerant traders who are not residents, and
 - Provide garbage bins in the car and then dispose of the garbage in temporary shelters that have been provided at the terminal or specifically for public transport vehicle owners by the Waste Management organization.
- Any individual or organization conducting development activities is required to keep the environment clean and not to place building materials on sidewalks or road bodies.
- Every individual or organization is required to report to the local government about violations that interfere with environmental cleanliness.
- All owners of undeveloped land are required to keep their land clean and in good condition.

4.2.2. Article 16

It is forbidden for anyone or anything to:

- Throw garbage into the river.
- Throw garbage into watersheds, rivers, and streets.
- Throw garbage or accumulate garbage in ditches or roadsides indefinitely.
- Burning garbage carelessly that can damage the environment.

4.2.3. Article 13 Paragraph 3

Payment or settlement of retribution for cleaning service shall be made no later than the 20th day of the current month with a valid payment receipt, for monthly retribution and every day for daily retribution.

4.2.4. Article 22

- Retribution payers who fail to pay the retribution as referred to in Article 10, causing losses to the regional finances, shall be punished with imprisonment of 3 (three) months or a maximum fine of 3 (three) times the amount of retribution payable that is not or underpaid.
- Any person who violates the provisions as referred to in Article 14 and/or Article 15 shall be punished with a maximum imprisonment of 3 (three) months or a maximum fine of Rp. 5,000,000.00 (five million rupiah).
- Violation as referred to in paragraph (1) and paragraph (2) shall be punished as a criminal offense.

4.3. Garbage Retribution Collection Procedure

The garbage retribution collection procedure is carried out by the citation foreman who is stationed in each village and the citation is carried out once a month by the foreman and begins with the determination of the retribution obligation and the amount of tariff based on the level of use of waste services by the local government. After that, a Regional

Retribution Determination Letter (SKRD) or other equivalent documents, such as tickets or coupons, is issued as the basis for retribution collection. Retribution collection is carried out by officers appointed by the local government, and this collection cannot be outsourced to other parties. The retribution payer pays the amount owed in accordance with the nominal value in the SKRD or equivalent document, and the payment must be paid at once within a predetermined period, usually no later than 15 days from the issuance of the SKRD.

Payment can be made in cash to the collection officer, through an appointed institution such as the kelurahan, BUMDES, or a private party that manages waste transportation, depending on each region's policy. After the payment is received, the officer provides proof of payment in the form of official ticket or receipt to the retribution payer. Furthermore, the collection result is deposited grossly to the regional treasury by the appointed revenue treasurer, with a maximum deposit time of 24 hours after receiving the retribution money.

Based on observation and interview with the waste retribution management officer in Sudirejo 1 urban village, it is found that the waste retribution collection system in this area runs with a fairly structured mechanism. Retribution payers consist of households, businesses, and public facilities that receive waste transportation services. The collection process begins with data collection and verification of the retribution payers by the kelurahan officers. After that, each retribution obligor receives a letter of assessment or payment coupon that must be completed within a certain time, in accordance with the applicable provisions in the region.

4.4. Cycle of the Waste Collection System and Regional Revenue Cycle

4.4.1. Cycle of the Waste Collection System

An example of an image illustrating the waste collection system cycle is shown below:

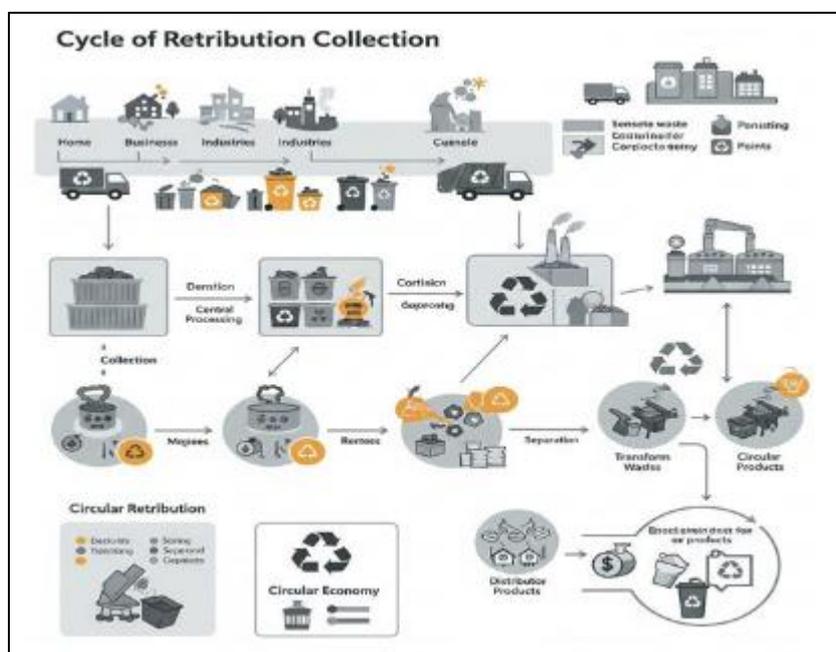


Image Source: Waste Collection Cycle

Figure 2 Waste Collection System Cycle

Based on the image above, it illustrates that the waste retribution collection system cycle begins with the registration of retribution payers by the local government, where residents or business actors are classified according to the type and volume of waste they generate. Based on this data, the rates are determined and bills are issued.

Subsequently, residents make retribution payments through service counters, banks, or digital systems. The collected funds are used to finance waste management operations.

In return, the government provides waste collection, transportation, and processing services through sanitation workers who operate according to a set schedule. The waste is transported to temporary disposal sites (TPS) or final disposal sites (TPA) using the provided fleet.

Once the service is completed, the cycle returns to the initial stage, with evaluation and data updates for the next billing cycle. This cycle continues continuously as part of a sustainable waste management system.

4.4.2. Regional Revenue Cycle

An example of an image illustrating the regional revenue cycle is shown below:

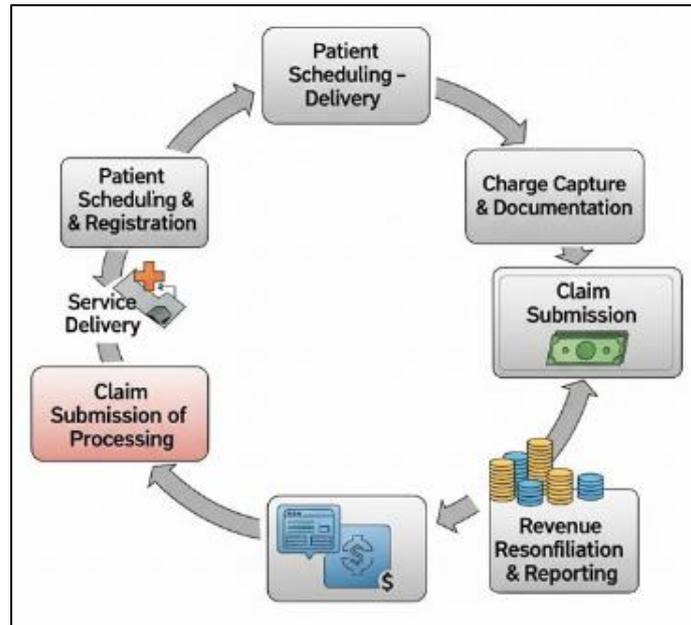


Image Source: Regional Revenue Cycle

Figure 3 Regional Revenue Cycle

Based on the image above, the waste retribution collection cycle in Medan City begins with planning by the Environmental Agency, which determines the retribution objects and rates based on the classification of sanitation services. This determination refers to Medan City Regional Regulation No. 3 of 2011 and Mayor Regulation No. 34 of 2017.

Next, sub-district and UPT officers carry out data collection of retribution payers and record the information in the retribution management system. Based on this data, a Regional Retribution Assessment Letter (SKRD) is issued as the basis for payment.

Collection is carried out directly by officers or through official payment channels such as counters and banks. The collected funds are deposited into the regional treasury account, then recorded and documented by the relevant regional apparatus using the regional financial system.

Every month, the UPT and relevant agencies prepare a retribution realization report to be evaluated by the city government. Supervision is carried out both internally and externally to ensure transparency. If violations such as illegal levies or misuse of funds are found, actions are taken in accordance with applicable laws and regulations. The purpose of this cycle is to strengthen municipal sanitation services while increasing regional revenue in a transparent and sustainable way.

5. Conclusion

The waste retribution collection system in Sudirejo 1 Subdistrict, Medan Kota, has been implemented very well and has achieved a high level of effectiveness and efficiency. Based on realization data from 2019 to 2023, the system consistently met, and even exceeded, its annual retribution collection targets, surpassing 100% of the established goals. This demonstrates the success of the system's implementation and management. The highest achievement over five consecutive years reached 100%, with a total of 721 active service units, indicating that the system is not only effective in reaching targets but also efficient in its operations. The collection mechanism is carried out regularly and in a structured manner—starting from the registration of retribution payers, issuance of payment receipts, to the deposit of

collected funds into the regional treasury within a maximum of 24 hours after receipt. This reflects a high degree of transparency and accountability.

However, despite the system running well, there are several challenges that require attention, such as the lack of public awareness regarding waste retribution payments and the suboptimal enforcement of sanctions against non-compliant payers. These issues may reduce the sustainability and effectiveness of the system in the future if not addressed properly. Therefore, efforts are needed to raise public awareness through socialization and education about the importance of their contribution to waste management, as well as stricter enforcement of sanctions for violations.

5.1. Recommendation

Overall, the success of the waste retribution collection system in Sudirejo 1 Subdistrict demonstrates that with proper procedures, effective supervision, and active community participation, waste management can be carried out efficiently and effectively. This supports the government's efforts to improve environmental quality and public welfare. However, this success must be maintained and further enhanced through various innovations and increased public awareness to ensure the system operates sustainably and provides long-term benefits for both the environment and the community. In addition, it is recommended that the system be continuously improved and adapted to technological advancements and the evolving needs of society to ensure the sustainability of waste management and to maximize its benefits for all residents in the area.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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