

## Research Article

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# Effectiveness of Revenue Revenue from Solid Waste Services in Bandar Lampung City

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**Abstract:** *This research aims to find out the effectiveness and potential of receiving waste levies in the city of Bandar Lampung. This research uses secondary data collection techniques, namely data collection techniques carried out by collecting historical data or documents that are relevant to this research. The data used are the target for receiving waste levies, the actual receipt of waste levies, the number of households in Bandar Lampung City and the waste levy rates. The research results show that every year the effectiveness of the waste levy does not reach the target and analysis of potential levy revenue shows an increase.*

**Keywords:** *effectiveness of levies, revenue targets, realization of receipts, number of households, waste levy rates.*

## Introduction

According to Law Number 23 of 2014 concerning Regional Government, each municipality is given the authority to choose how its citizens' homes are regulated through the implementation of comprehensive and accountable regional autonomy. As a federated country, Indonesia has embraced decentralization by empowering regional governments with greater autonomy and authority. One of the challenges facing this area is the need for residents to have sufficient income and the ability to manage their own household finances.

The main source of funding to increase the financial capacity of local governments to implement domestic regulations is PAD. Regional governments must work hard to maximize the efficiency of managing the regional revenue sources they control, because it is revenue that ultimately determines the level of self-government of a region. Maximizing Regional Income Will Influence Increases in Regional Taxes and Government Payments. The purpose of regional taxes, or Original Regional Income, is to encourage local governments to implement regional economies that make maximum use of their resources.

Therefore, fiscal decentralization is necessary to encourage economic growth and ensure efficient regional financial management, with the ultimate goal of increasing regional income. The process of redistributing funds from higher levels of government to lower levels to facilitate the delivery of political and administrative services in accordance with the scope of authority granted to the public sector is known as "fiscal decentralization".

Regional levies are a type of regional tax used to compensate residents for goods and services provided by local governments. The existence of this levy payment does not escape the presence of service providers who collect the levy themselves, namely the Regional Government. In essence, levies have the same main objectives as taxation, namely providing APBD financing, ensuring regional economic stability, and ensuring equal distribution of regional community income. Levies play an important role in funding regional development and daily government expenditure.

The city of Bandar Lampung, as the capital of Lampung Province and one of the big cities in Indonesia, is experiencing the same social problems as other big cities, namely, environmental cleanliness

problems caused by the increase in population which is always directly proportional to the increase in waste volume. The city of Bandar Lampung has a population of 1,311,240 people, with a growth rate of 1.79% per year, producing a daily waste volume of 2,086.71 m<sup>3</sup> with an average of around 0.43 kg/day/person divided into 65% organic waste. and inorganic 35%. The large amounts of waste above are generated from several places, such as household waste, waste resulting from economic activities (markets/malls), and educational places. The above makes the environment of Bandar Lampung City look dirty and far from being neat and healthy.

## Literature Review

### Effectiveness

According to Ravianto (2014) Effectiveness is how well the work is done, the extent to which people produce output as expected. This means that if a job can be completed with planning, both in time, cost and quality, then it can be said to be effective.

The concept of effectiveness when related to the receipt of waste levies, the intended effectiveness is how much the realization of waste levy receipts has succeeded in achieving the target that should be achieved in a certain period, with the following formula (Halim & Kusufi, 2007):

$$\text{Effectiveness} = \frac{\text{Realization of Waste Retribution Revenue}}{\text{Waste Retribution Revenue Target}}$$

According to Sunarto (2009) potential is the power, strength or ability to generate regional revenue or capabilities that deserve to be received at one hundred percent. Regional revenue potential can be measured using two approaches. First, based on the revenue function, second based on socio-economic indicators. In order to understand the potential for household waste cleanliness levies on PAD, it is necessary to first examine the components that form the potential for waste cleanliness levies themselves.

The calculations are as follows (Lestari, Nurul, and Veronika, 2022):

$$\text{Potential Waste Levy} = \text{Number of Households} \times \text{Rates} \times 12 \text{ month}$$

### Previous Research

The following will present a table of previous research positions related to this research. Table 1 presents the results of previous research that are relevant to the research to be conducted. An overview of the previous research in question can be seen in the table below:

**Table 1. Previous Research**

Researcher	Title	Research result
Widhi Ariestianti R (2011)	Potential for Household Waste Cleaning Levy in Regional Original Income Case Study in Semarang city	Calculation of potential household waste cleanup levies is carried out using two approaches. First, by using mathematical calculations the number of houses in the city of Semarang. Second, by using a trend approach to the number of households in the city of Semarang. Some of the main

		findings of this research are as follows. First, calculating the potential household waste cleanup levy using a mathematical approach to the number of households provides greater results compared to the trend approach to the number of houses. Second, so far the potential for waste cleanup levies in the city of Semarang has not been explored optimally. The amount of actual revenue from this levy is always greater than the target set.
Jufaizal (2016)	Analysis of the Effectiveness of the Implementation of Garbage Retribution Collection in Rokan Hulu Regency	From the research results obtained, it shows that the growth of the Rokan Hulu Regency Waste/Cleaning Levy continues to increase. Based on the results of the receipt of the Waste/Cleaning Levy from the set target, the revenue results for 4 (four) years show an increase in the effectiveness of the receipt of the Waste/Cleaning Levy in Rokan Hulu Regency. With effectiveness for 4 (four) consecutive years from 2011, the effectiveness value of the Waste/Cleanliness Levy was 68.33%. In 2012 the effectiveness value of the Waste/Cleanliness Levy was 95.91%. In 2013, the effectiveness value of the Waste/Cleanliness Retribution was 96.14%. In 2014, the effectiveness value of the Waste/Cleanliness Levy was 107.95% with the average effectiveness only reaching 92.08%.
Juanda Elia Rembet (2018)	Analysis of the Effectiveness of Waste Retribution Collection and Its Contribution to Tomohon City Regional Original Income	The 2015 waste levy effectiveness level was 10.05% (not effective). Then in 2016 the level of effectiveness decreased to 5.96% (not effective). But in 2017 the level of effectiveness increased sharply to 44.69%. Even though it is not effective, 2017 was the highest level of effectiveness in the 3 years this Regional Regulation has been effective. So, the level of

		effectiveness of waste levy revenue has fluctuated over the past 3 years, in the first year it decreased, but in subsequently increased.
Kamaruddin (2014)	Government Performance in Overcoming Waste in Makassar City	Makassar City is still lacking, based on the data that researchers obtained, the number of waste transport fleets is 81 trucks (over 20 years old) 28 trucks (over 10 years old) 42 trucks under 5 years old Source: Equipment/Parks and Cleanliness Department of Makassar City. It can be seen that the waste management facilities and infrastructure in Makassar City are indeed inadequate because the number of waste transport vehicles is still insufficient, plus many are old and often damaged, causing waste transportation services in Makassar City to not run optimally so that waste management in Makassar City can be said to be ineffective. Therefore, it is necessary to increase the waste transport fleet of around 50 units to provide optimal waste transport services in Makassar City.

## Results and Discussion

The results of research conducted in Bandar Lampung City were to determine the effectiveness and potential of receiving waste levies on Bandar Lampung City's PAD. The data needed to measure effectiveness is data on the realization and target of receiving waste levies as well as data on the realization of Regional Original Income from 2019 to 2022. Meanwhile, the data needed to measure the potential for waste levies is data on the average rate of waste levies, and the number of households. multiplied by 12 months. Data obtained from the Bandar Lampung City Regional Tax and Levy Management Agency.

### 1. Waste Retribution Revenue Target 2019 – 2022

**Table 2. Waste Retribution Revenue Target for 2019 – 2022**

Year	Target
2019	12,050,000,000
2020	15,000,000,000
2021	30,000,000,000
2022	13,500,000,000

Source: BPPRD, (2023).

## 2. Realization of Waste Retribution Revenue 2019 – 2022

**Table 3. Realization of Waste Retribution Revenue 2019 – 2022**

Year	Realization
2019	6,979,724,400
2020	7,193,333,000
2021	8,200,000,000
2022	9,450,000,000

Source: BPPRD, (2023).

## 3. Number of Households in Bandar Lampung City 2019 – 2022

**Table 4. Bandar Lampung City Households 2019 – 2022**

Year	Number of Households
2019	248,473
2020	253,221
2021	266,536
2022	263,691

Source: BPPRD, (2023).

## 4. Bandar Lampung City Household Waste Levy Rates 2019 – 2022

**Table 5. Bandar Lampung City Household Waste Levy Rates 2019 – 2022**

Year	Average Amount of Waste Levy Rates
2019	10,000
2020	10,000
2021	10,000
2022	10,000

Source: Perwali No. 21 of 2013 Bandar Lampung City, (2023).

The tariff determination used from Perwali No. 21 of 2013 for Bandar Lampung City is IDR 10,000 for households.

**Analysis of the Effectiveness of Bandar Lampung City Waste Retribution**

Effectiveness analysis is useful for finding out whether the collection of waste levies in a particular year or over several years has been carried out, with the intended effectiveness being how much the realization of waste levy receipts has succeeded in achieving the target that should be achieved in a certain period. The calculation of the effectiveness of waste levy revenue is as follows:

## 1. Effectiveness of Bandar Lampung City Waste Retribution Revenue in 2019

$$= \frac{6.979.724.400}{12.050.000.000} = 57,92\%$$

## 2. Effectiveness of Bandar Lampung City Waste Retribution Revenue in 2020

$$= \frac{7.193.333.000}{15.000.000.000} = 47,95\%$$

## 3. Effectiveness of Bandar Lampung City Waste Retribution Revenue in 2021

$$= \frac{8.200.000.000}{30.000.000.000} = 27,33\%$$

4. Effectiveness of Bandar Lampung City Waste Retribution Revenue in 2022

$$= \frac{9.450.000.000}{13.500.000.000} = 70,00\%$$

**Table 6. Effectiveness of Bandar Lampung City Revenue 2019 – 2022**

Year	Realization of Acceptance	Target Acceptance	%
2019	6,979,724,400	12,050,000,000	57.92
2020	7,193,333,000	15,000,000,000	47.95
2021	8,200,000,000	30,000,000,000	27.33
2022	9,450,000,000	13,500,000,000	70.00

Source: Processed Data, (2023).

From the table above, it can be seen that the effectiveness of waste levy revenue in Bandar Lampung City in 2019 was realized at 57.92%, so it can be said to be ineffective, then in 2020 it decreased to 47.95%, so it can be said ineffective, and in 2021 the realization decreased by 27.33% so it can be said to be ineffective, so it can be said to be ineffective. So it can be concluded that from 2019 - 2021, waste levy revenues will always decrease, and in 2022 the effectiveness of waste levy revenues will only reach 70.00%, so it can be said to be less effective.

### Analysis of Potential Waste Retribution for Bandar Lampung City

The potential for waste levies is to measure whether the targets for collecting waste levies have been carried out as well as possible. Waste levies can be obtained from the number of households in Bandar Lampung City, then multiplied by the applicable tariff. The calculation of potential waste levy revenue is as follows:

1. Potential Revenue from Bandar Lampung City Waste Levy in 2019  
 $= 248.473 \times 10.000 \times 12 = 29.816.760.000$
2. Potential Revenue from Bandar Lampung City Waste Levy in 2020  
 $= 253.221 \times 10.000 \times 12 = 30.386.520.000$
3. Potential Revenue from Bandar Lampung City Waste Levy in 2021  
 $= 266.536 \times 10.000 \times 12 = 31.984.320.000$
4. Potential Revenue from Bandar Lampung City Waste Levy in 2022  
 $= 263.691 \times 10.000 \times 12 = 31.624.320.000$

**Table 7. Potential Revenue of Bandar Lampung City 2019 – 2022**

Year	Potential Revenue
2019	29,816,760,000
2020	30,386,520,000
2021	31,984,320,000
2022	31,624,320,000

Source: Processed Data, (2023).

From the table above, it can be seen that the potential for waste levy revenue in Bandar Lampung City in 2019, the potential realization that can be achieved is 29,816,760,000, then in 2020 it has increased to 30,386,520,000, in 2021 the potential realization that can be achieved has increased an increase of 31,984,320,000. So it can be concluded that from 2019 - 2021 the potential for waste levy revenues will always increase, and in 2022 the potential for waste levy revenues will be 31,624,320,000. This is due to illegal levies from other parties or parties outside the environmental service. However, due to these obstacles, the environmental service always continues to strive to increase the collection of waste cleanup levies, namely by trying to increase the facilities and infrastructure for transporting waste and carrying out activities on the streets to re-register customers in order to overcome illegal levies which often occur. With this, it can also be concluded that the household waste cleanup levy has the potential to increase local revenue if managed well.

## Conclusion

Based on the calculation of the effectiveness of the Bandar Lampung City waste levy collection, research can see that the waste cleanup levy from 2019 - 2022 always does not reach the target and is less effective.

Factors that influence the ineffectiveness of receiving waste cleanliness levies are the lack of facilities owned by the environmental service in managing waste cleanliness levies, such as a lack of waste transport vehicles (trucks), apart from that, the acceptance of waste cleanliness levies in Bandar Lampung City is ineffective because of the levies. Illegal activities that occur in the field are carried out by the Department, and there is no equality in payments made by the community regarding waste levy payments.

Based on calculations carried out using a tariff of Rp. 10,000, research can see that the waste cleanup levy has the potential to reach the target of realizing waste levy revenue. This can be seen through the analysis of the calculation of potential waste levy revenues where the number of households is multiplied by the tariff and multiplied by 12 months or for one year which is used, where the results of this analysis show that the realization that can be obtained should exceed the specified target.

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