



## Evaluation of Plastic Waste Management in Rawajati Waste Storage Depots, South Jakarta

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### Abstrak

Penelitian ini bertujuan untuk menganalisis evaluasi kebijakan pengelolaan sampah plastik di Depo Penampungan Sampah Rawajati Jakarta Selatan. Berdasarkan hasil penelitian, maka dapat disimpulkan tujuan mewujudkan lingkungan masyarakat yang sehat dan bersih dari sampah plastik dari kebijakan pengelolaan sampah plastik di Depo Penampungan Sampah Rawajati Jakarta Selatan sudah sesuai dengan yang dikemukakan oleh pengelola kebijakan. Masalah dari kebijakan pengelolaan sampah plastik ini yaitu kurangnya kesadaran masyarakat dalam membantu pengelolaan sampah plastik, dan masih banyaknya masyarakat yang membuang sampah sembarangan. Standarisasi kegiatan dari kebijakan pengelolaan sampah plastik ini yaitu reduce, reuse dan recycle. Dimana petugas mengumpulkan sampah dari masyarakat, kemudian dipilah sampah mana yang masih bisa dimanfaatkan, dan ada juga sampah yang kemudian didaur ulang lagi. Lalu untuk tingkatan perubahan yang terjadi dari pengelolaan sampah plastik di Depo Penampungan Sampah Rawajati Jakarta Selatan sudah semakin baik dan memiliki komitmen tinggi dalam pengelolaan sampah. Perubahan yang diamati merupakan akibat dari kegiatan tersebut atau karena penyebab lain dalam pengelolaan sampah di Depo Penampungan Sampah Rawajati Jakarta Selatan yaitu perubahan yang terjadi karena ada hubungan komitmen dalam pengelolaan sampah plastik. Pengelolaan sampah plastik di Depo Penampungan Sampah Rawajati Jakarta Selatan yang dirasakan oleh masyarakat dengan berkurangnya pemandangan sampah yang menumpuk dan bau yang tidak sedap serta termanfaatkannya sampah plastik untuk jadi bahan lain atau didaur ulang di bank sampah Rajawati.

**Kata Kunci: Depo, Penampungan Sampah, Pengelolaan, Plastik, Evaluasi.**

### Abstract

*This research aims to analyze and evaluate plastic waste management policies at the Rawajati Waste Storage Depot, South Jakarta. Based on the research results, it can be concluded that the policy manager stated the aim of creating a healthy and clean community environment from plastic waste from the plastic waste management policy at the Rawajati Waste Storage Depot, South Jakarta. The problem with this plastic waste management policy is the need for more public awareness to help manage plastic waste, and many people still*

*need help to throw rubbish carelessly. Standardization of activities in this plastic waste management policy, namely reduce, reuse, and recycle. Officers collect rubbish from the community, then sort out which rubbish can still be used, and there is also rubbish that is then recycled again. Then, the level of change that has occurred in the management of plastic waste at the Rawajati Waste Storage Depot, South Jakarta, has become better, and there has been a high commitment to waste management. The observed changes result from these activities or other causes of waste management in Rawajati Waste Storage Depot, South Jakarta. This change occurs because there is a relationship of internal commitment to plastic waste management. The community feels the management of plastic waste at the Rawajati Waste Storage Depot, South Jakarta, by reducing the sight of piled up rubbish and unpleasant odors and using plastic waste to make other materials or be recycled at the Rawajati waste bank.*

**Keywords: Perception, Leadership, Motivation, Performance**

### **Introduction**

Waste is one of the problems in development in a country because its impact can affect various aspects of people's lives and the country in general. Big cities need help with waste, such as what happens in the Special Capital Region (DKI) Jakarta. Poor waste management impacts the environment, causing various problems ranging from health problems to flood disasters. Waste production in DKI Jakarta continues to increase every year. Based on data from the DKI Jakarta Central Statistics Agency in 2022, it was noted that the annual waste volume of DKI Jakarta at the Bantar Gebang Integrated Waste Disposal Site (TPST) at the end of 2022 reached 7,543.42 million tons or an increase of 10.2% compared to 2021 which reached 7,233.82 million tons. The large volume of waste is undoubtedly caused by the many residents living in DKI Jakarta. According to Desy (2020), humans as a part of nature are the main part of a complex environment. In the unity of the ecosystem, humans' position is a part of other elements, both biological and non-biological, which cannot be separated. The relationship between humans and the environment is circular; their activities will more or less change the environment.

According to data from the Central Statistics Agency (BPS), the population in DKI Jakarta in 2022 will reach 10,748,230 and World Population Review in 2023 DKI Jakarta is the 28th most populous city in the world out of 781 cities. According to Soemarwoto (1991), the increase in population and income will give rise to a consumptive lifestyle, which can have an impact on increasing waste produced

The increasingly complex waste problem in DKI Jakarta is not only caused by the increasing population. However, it is also influenced by other factors, including the diversity of socio-economic and cultural conditions of the city's communities, the low level of seriousness of the government and society in managing and dealing with waste problems, and the lack of appropriateness. Waste management is applied to a particular area (Madina, 2012). Most of the waste management in DKI Jakarta needs to be managed sustainably, this is because the Bantargebang landfill (TPA) in Bekasi DKI Jakarta's waste landfill is still in poor condition, and waste is piled up openly (Mulyadin et al., 2018). This worrying condition is said to be caused by the struggle for waste management by many interested parties, giving rise to prolonged conflict.

Waste management is collecting, transporting, or transferring waste and finally processing it. Based on regional and comprehensive approaches, waste management can be understood further in several concepts as an effort to anticipate reducing the quantity of waste in coordination with the economic sector and population development; sorting, collecting, and collecting household waste, which is realized from an economic and ecological perspective; reduce negative pressures resulting from the management of Final Processing Sites by optimizing final waste processing (Ogutu et al., 2021)

Plastic waste is one type that the world is currently campaigning for sound waste processing. According to Hasanzadeh and Mojaver (2023), plastic waste is a type of macromolecule that is formed by a polymerization process, namely the process of combining several simple molecules (monomers) through chemical processes into large molecules. Meanwhile, plastic can be grouped into two types: thermoplastic and thermosetting. Thermoplastic is a plastic material that will melt when heated to a specific temperature and can be reshaped into the desired shape. Meanwhile, thermosetting is plastic, which, once made in solid form, cannot be melted again by heating (Singh et al., 2021).

The increasing use of plastic in human life is a problem that must be resolved appropriately. This increase in the use of plastic occurs because plastic is light, practical, economical, and can replace the function of other items. This practical and economical nature means that plastic is often used as a single-use item, thus contributing to increased plastic waste. This causes serious environmental problems. The study entitled Plastic Waste Associated with Disease Coral Reefs conducted by Lamb et al (2018) explained

that Indonesia is one of the countries that emit the most plastic waste into the sea in the projected period between 2010-2025. The government has established various hierarchical central-regional policies to deal with the plastic waste problem in Indonesia, but these still need to be improved. This can be seen from the amount of plastic waste, which still dominates at 15% of the total existing waste and is 69% of the total waste managed by Final Disposal Sites (TPA).

Plastic waste is most likely still piled up in landfills without being processed because landfill conditions in Indonesia still prioritize dumping activities, not processing activities. Meanwhile, plastic waste has its characteristics in the realm of waste management policies, where its management begins with the producer's behavior. Plastic waste producers need to adjust their production activities to their projected production output so that it does not become waste or pollution. The Ministry of Home Affairs, as the central government's axis in the regions, is deemed necessary to review and develop waste management policies that significantly focus on regional government. Provisions such as attachments to Law No. 23 of 2014 concerning Regional Government mandates that districts/cities must carry out waste management under provincial coordination. In line with this, regional government-level policies have emerged, with 14 regional governments establishing regulations to reduce the rate of plastic waste productivity in their jurisdictions.

The issue of handling plastic waste has become the subject of international studies, such as that conducted by Aryan, Yadav, & Ranjan (2019) in India with the finding that the most environmentally friendly plastic waste management is:

1. Recycling;

2. Incineration with energy conservation;
3. Incineration without energy conservation; And
4. Landfilling without biogas conservation

Lebreton and Andrady (2019) studied the projected growth of plastic waste. They found that third-world countries in Africa and Asia were the largest producers of plastic waste. The investments made by these countries in waste management infrastructure were allegedly able to answer the problem of plastic pollution in the world. For DKI Jakarta itself, based on data from the DKI Jakarta Environmental Service, it is stated that during 2020, there was an increase in plastic waste, with 21 percent of total waste compared to the composition in 2018, which was 15 percent. Meanwhile, based on a survey conducted by Sustainable Waste Indonesia in 2020, plastic waste in DKI Jakarta reached 4,525 tons or 20.57 percent, the highest compared to the western part of the island of Java. The high rate of plastic waste in DKI Jakarta shows that regulations on shopping plastic in DKI Jakarta need to be fixed. Through the implementation of DKI Governor's Regulation Number 142 of 2019 concerning the Obligation to Use Environmentally Friendly Shopping Bags in Shopping Centers, Supermarkets, and People's Markets, the DKI Provincial Government, through the Environmental Service (LH), claims to be optimistic that the amount of plastic waste will decrease by around 14 percent. Since July 1, 2020, with the issuance of Gubernurial Regulation Number 142 of 2019, it is hoped that the production of single-use plastic waste in DKI Jakarta will be reduced. However, plastic waste in DKI Jakarta is very high. Based on research results from the waste management company Waste4Change, in 2021, it was found that most of the plastic waste in DKI Jakarta was not recycled and ended up in final disposal sites (TPA). From the results of

Waste4Change research in 5 municipalities of DKI Jakarta, it was found that 87.52% or 244.72 tons of plastic waste per day still ends up in a landfill. This is exacerbated by data findings from the World Economic Forum-National Plastics Action Partnership (WEF-NPAP) and SYSTEMIQ in 2022, which states that plastic waste dominates three-quarters or 76% of the waste that leaks into the Indonesian environment.

Based on the explanation above, researchers are interested in researching the management of handling plastic waste at waste storage depots in DKI Jakarta Province. Based on the number of waste storage depots in DKI Jakarta, researchers conducted a case study of the waste storage depot on Jalan Rawajati Barat, Rajawati Village, Pancoran District, South Jakarta. The researcher chose the waste storage depot on Jalan Rawajati Barat, Rajawati Subdistrict, Pancoran District, South Jakarta because, based on data from the South Jakarta Environment Sub-Department that every day 118 tons of rubbish is dumped here at this depot. This depot has the highest volume compared to other depots. It is in South Jakarta (Simanjuntak, 2023). For this reason, researchers are interested in conducting research titled "Evaluation of Plastic Waste Management at the Rawajati Waste Storage Depot, South Jakarta."

### **Method**

This research aims to evaluate plastic waste management at Rawajati, South Jakarta and Koja, North Jakarta waste storage depots. The approach used in the research is a qualitative approach. The type of research used in this research uses descriptive research whose aim is to describe systematically based on facts and accurately the facts and characteristics of a subject or object. Data collection techniques are carried out through interviews and observations, as well as

document studies. The data analysis used in this research is as follows: (1) Data organizing stage; (2) Data processing stage; (3) Data interpretation stage; and (4) Conclusion stage (Neuman, 2017).

## **Results and Discussion**

### **Results**

In this research, researchers used the policy evaluation theory proposed by Weiss (1972). According to Weiss (1972), there are six steps to evaluate policy evaluation. Therefore, based on the research results, the researcher describes them as follows:

#### **a. Identify the program objectives to be evaluated**

Based on the research results, this plastic waste management policy aims to create a healthy and clean community environment from plastic waste by the Provincial Regulations for the Special Capital Region of Jakarta Number 3 of 2013 concerning Waste Management.

Regarding this goal, researchers ask the public. According to the community, waste management at the Rawajati Waste Storage Depot, South Jakarta, reduces the problem of waste in the community environment. Based on the research results, the policy manager stated the aim of creating a healthy and clean community environment from plastic waste from the plastic waste management policy in Rajawati Village.

#### **b. Analysis of the problem**

In managing plastic waste, there are certainly problems faced. Based on the data obtained, it is known that the problem faced is the careless throwing of rubbish in the community. So, waste management needs to run optimally. Based on the research results, the problem with this plastic waste management policy is the lack of public awareness in helping to manage

plastic waste, and many people still throw rubbish carelessly. Regarding this problem, researchers ask the public. According to the community, there are still people who throw rubbish carelessly.

Based on the research results, The problem with this plastic waste management policy is the need for more public awareness in helping to manage plastic waste, and many people still need to throw rubbish carelessly.

#### **c. Description and standardization of activities**

Activity plastic waste management at the Rawajati Waste Storage Depot, South Jakarta, done through Reduce, Reuse, and Recycle, is now abbreviated as 3R. 3R is a waste reduction activity by reducing, using, reusing, and recycling. Based on the research results, the standardization of activities in this plastic waste management policy is reduce, reuse, and recycle. Officers collect rubbish from the community and then sort it out, which can still be used. There is also rubbish that is then recycled again.

#### **d. Measurement of the level of change that occurs**

Regarding changes in waste management, according to waste management informants in Rawajati Waste Storage Depot, South Jakarta, It's been better for the past 4 years. Based on the research results, the change in managing plastic waste at the Rawajati Waste Storage Depot, South Jakarta, is improving. It has a high commitment to waste management.

#### **e. Determine whether the observed changes result from the activity or another cause.**

Associated with observed changes are a result of these activities or due to other causes waste management

in Rawajati Waste Storage Depot, South Jakarta. Based on the results of interviews with informants, it was recognized that changes in waste management in the community were due to the waste management carried out by the sub-district government having a high level of commitment.

Based on the research results, observed changes result from these activities or other causes of waste management in Rawajati Waste Storage Depot, South Jakarta, namely changes that occur because there is a relationship of internal commitment to plastic waste management.

#### **f. Determining the existence of an impact**

The impact of plastic waste management at the Rawajati Waste Storage Depot, South Jakarta felt by the community by reducing the sight of piled up rubbish and unpleasant odors and using plastic waste to make other materials or be recycled. Based on the research results, it can be stated that the impact of plastic waste management at the Rawajati Waste Storage Depot, South Jakarta, is felt by the community by reducing the sight of piled up rubbish and unpleasant odors as well as the use of plastic waste to be made into other materials or recycled at the Rawajati waste bank.

#### **Discussion**

Waste is unwanted leftover material after the end of a process. Humans carry out the process in question; in natural processes, there is no waste and only immovable products (Apriadi, 2005). In human life, much waste is produced by industrial activities, which is then known as waste. Not only from industry waste can also be generated from mining, manufacturing (factory processes), and consumption activities. Nearly all industrial products will become waste at some point,

with the amount of waste roughly equal to the amount of consumption. To solve the waste problem, the Regional Government of DKI Jakarta issued a waste management policy concerning waste management contained in the Provincial Regulation for the Special Capital Region of Jakarta Number 3 of 2013. For this reason, this policy was then implemented by the DKI Jakarta Regional Government hierarchically down to the sub-district level.

Policy implementation is an effort to find solutions to various problems society faces. Therefore, a policy must have a vision of taking sides, especially towards those who have problems, for example, in specific communities. Therefore, the policy can also be called an intervention. Therefore, Parsons (2005) stated that the public is a human activity that needs to be regulated or intervened by the government. Nugroho (2023) confirms Parson's opinion above, which is why he states that the essence of the policy is to carry out interventions or actions, namely efforts to identify problems that must be intervened in, which are intended to confirm the goals to be achieved by the structural design of the implementation process. Grindle (2017) states that the success of policy implementation is determined by the degree of policy implementation, which includes:

- a. Interests affected by the policy;
- b. The type of benefits generated;
- c. The degree of change desired
- d. Position of policymaker
- e. Who implements the program, And
- f. Driven resources.

Thus, the waste management policy at the Rawajati Waste Storage Depot, South Jakarta, as per the results of the research data, it can be concluded that the implementation of the waste management policy at the Rawajati Waste Storage Depot, South Jakarta, is by its presence in

solving existing problems in society, in this case, the plastic waste problem.

Based on the results of the researcher's research based on the six steps in evaluating public policy according to Weiss (1972), it can be concluded that the program's objectives are appropriate. Then, the problem is more about people who still need to be aware of not throwing rubbish carelessly. Then, standardize waste collection, sorting, processing, and recycling activities. Meanwhile, the changes are related to better management of plastic waste. Apart from that, the changes are related to the commitment to waste management by the Rajawati Village. Meanwhile, regarding the impacts felt, there is a reduction in the accumulation of waste and a reduction in unpleasant odors caused by waste, as well as the use of plastic waste to make other materials or be recycled at the Rajawati waste bank.

Of course, waste management carried out by Rajawati Subdistrict is by the mandate of Law of the Republic of Indonesia Number 18 of 2008 concerning Waste Management Article 22, which includes:

- a. Sorting in the form of grouping and separating waste according to the type, quantity, and nature of waste;
- b. Collection in the form of collecting and transferring waste from waste sources to temporary shelters or integrated waste processing sites;
- c. Transportation in the form of carrying waste from the source and from a temporary waste storage site or an integrated waste processing site to the final processing site;
- d. Processing in the form of changing the characteristics, composition, and amount of waste;
- e. Final processing of waste in the form of returning waste and residue from

previous processing to environmental media safely.

Plastic waste management at the Rawajati Waste Storage Depot, South Jakarta, directly solves the waste problem in the community.

### **Conclusion**

Based on the results of the research and discussion, it can be concluded from the results of the evaluation of plastic waste management at the Rawajati Waste Storage Depot, South Jakarta, that the problem with the plastic waste management policy is due to a lack of public awareness in helping to manage plastic waste. There are still many people who need help to throw rubbish. Plastic waste management at the Rawajati Waste Storage Depot, South Jakarta, uses reduction, reuse, and recycling standardization. Then, changes occurred in the management of plastic waste at the Rawajati Waste Storage Depot, South Jakarta, because there was a relationship of internal commitment to plastic waste management. The impact of plastic waste management at the Rawajati Waste Storage Depot, South Jakarta, which is felt by the community, is the reduction in the sight of piled up rubbish and unpleasant odors as well as the use of plastic waste to make other materials or be recycled at the Rajawati waste bank.

Based on the conclusions above, the researcher provides the following suggestions:

- a. For Rajawati Village
  - 1) Rajawati Subdistrict has again improved its waste management policy in the community.
  - 2) Rajawati Subdistrict authorities have increased sanctions for people who throw rubbish carelessly.
  - 3) The Rajawati Subdistrict is intensively providing education to the community



regarding the impact and management of plastic waste on people's lives.

b. For Society

- 1) People can be more aware of not throwing rubbish carelessly.
- 2) The public can monitor other people who throw rubbish carelessly and reprimand them.
- 3) The community can increase their participation in waste management by actively creating a waste bank.

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