



## Waste Management in Urban Environment

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### Abstract

One of the imbalances in the environment is waste. Waste is unwanted residual material after the end of a process and the consequences of human activities. The more complex and increasing the problem of waste in urban areas, the waste appears as a problem that requires attention and handling in its management. This research was conducted at the Department of the Environment of Malang City. The purpose of this study is to describe and analyze how the Implementation of Waste Management Policies by the Environmental Service of Malang City. To find out what influences the Implementation of Waste Management Policies by the Environmental Service of Malang City based on Regional Regulations Malang City Number 10 of 2010 concerning Waste Management. The focus of the research used the following indicators: Malang City environmental conditions, community participation in waste management, authority to implement policies in waste management, human resources, budgetary resources, infrastructure and bureaucratic structures in waste management. The data collection technique used in this research is to use observation, interview and documentation techniques. Then the data analysis technique used in this research is descriptive qualitative with a theoretical approach that is in accordance with the existing problems and adapted to the arrangement of the data presentation through the stages of data collection, data presentation, condensation and conclusion/verification. Based on the results of data analysis in research on Waste Management in the Urban Environment at the Malang City Environmental Service, the implementation of waste management carried out by the Malang City Environmental Service has been running effectively. This can be seen from the reduction of waste by 22.55% and waste handling in Malang City by 75.47% with the percentage of waste being managed 99.02%. The limited means of transporting waste, the lack of supervisory staff at the Final Disposal Site (TPA) is a problem faced by the Malang City Environmental Service and some people who live in the outskirts of the river have a lack of knowledge and awareness in disposing of waste in the wrong place.

**Keywords:** Waste management; Urban environment

### 1. Introduction

Garbage is a global problem experienced by every country to find the right solution in solving according to the character and type of waste in the country itself. One of the imbalances in the environment is waste. The more complex and increasing the problem of waste management in urban areas, the waste appears as a problem that requires special attention and handling.us. Garbage is a common problem and a phenomenon where how much waste is produced and how the city government can optimize its management. Based on Law Number 18 of 2008 concerning Waste Management, it is

defined as a systematic, comprehensive, and sustainable activity that includes waste reduction and handling. One of the pillars of implementing good governance is a commitment to the environment, which means that waste management is needed that is still based on environmental sustainability, and the negative impact it causes on the environment is kept to a minimum.

Malang City is one of the big cities located in East Java, with a population of 874,890 people which consists of 431,483 male residents and 443,403 female residents (BPS Year 2020). The amount of solid waste in Malang City with an average production of domestic and industrial waste reaches an average of around 400 tons per day. In 2017 it reached 3,226.1 tons, in 2018 there was an increase more than the previous year with the amount of waste reaching 4,488.54 tons, and the problem in managing inorganic waste such as plastic and the like is still a problem and is quite serious. Based on the Malang City Regional Regulation Number 10 of 2010 concerning Waste Management as a legal entity that has social goals and objectives. With the existence of these regional regulations, it can make it easier for the community to comply with and know each implementation activity in the Malang City area. The implementation of this regional regulation is still not optimized because the volume of waste that is increasing from year to year is not directly proportional to the storage area provided at the Supit Urang TPA with an area of 25 hectares which is getting narrower, even almost overloaded.

Waste management in Malang City, is handled by the Malang City Environment Service which carries an important role in making various efforts to handle solid waste in Malang City. In overcoming the risk of waste accumulation, the Malang City Government has established an institution called the Malang Waste Bank (BSM) which is a cooperative legal entity in collaboration with the Malang City government as a forum to foster, train, assist, as well as buy and market the results of community waste management activities in the framework of reducing waste at TPS/TPA and empowering the community's economy by empowering waste with the 3R (reduce, reuse, and recycle) program towards a clean and cool city of Malang.

The formulation of the problem in this study is how Implementation of Waste Management Policy at the Environmental Service of Malang City Based on Regional Regulation Number 10 of 2010 and What Affects the Implementation of Waste Management Policies at the Environmental Service of Malang City Based on Regional Regulation Number 10 of 2010 ?

The purpose of this research is to describe and analyze how Implementation of Waste Management Policies at the Environmental Service of Malang City Based on Regional Regulation Number 10 of 2010 and to find out what affects Implementation of Waste Management Policies at the Environmental Service of Malang City Based on Regional Regulation Number 10 of 2010.

## **2. Literature Review**

Public policy is a number of government activities to solve problems in the community either directly or from various institutions that affect people's lives (Tangkilisan 2003:2). According to George C. Edward III, policy implementation is a dynamic process, where there are many factors that interact and influence policy implementation. These factors need to be displayed in order to find out how these factors influence the implementation (Edward in widodo, 2011:96-110). Implementation of policies in the form of actions or decisions stated in the formulation and implemented in accordance with state policies that can have real consequences/impacts on the community so that according to George C. Edward III (1980:

Waste management is a systematic, comprehensive and continuous activity that includes waste reduction and handling. (Law No. 18 of 2008). Waste management aims to improve health and environmental quality and make waste a resource.

The city is an administrative area determined by the government; high population density; most areas are non-agricultural economic activities (Richardson, 1978). Furthermore, according to Emil Salim (1985) in his book environment and development states that the environment is all objects, forces, conditions, circumstances and influences that are contained in the space we occupy and have living things including human life.

### **3. Methods**

The method used in this research is descriptive research method with a qualitative approach. Descriptive research was conducted to determine the value of each variable, either one or more independent in nature without making a relationship or comparison with other variables. The purpose of descriptive research is to make a systematic, factual, accurate description, picture, or painting of the facts, characteristics, and relationships between the phenomena being investigated.

The location in this study is the Environmental Service of Malang City with the consideration of choosing the location because of waste management and the increase in waste volume along with the increase in population, in Malang City.

The focus of this research is the implementation of waste management policies and what influences the implementation of waste management policies based on Malang City Regulation no. 10 of 2010 with the following indicators: 1. Environmental conditions of Malang City, 2. Community participation in waste management, 3. Authority for implementing policies in waste management, 4. Resources and 5. Bureaucratic structure in waste management.

Sources of data obtained through sources or informants, events, locations, objects/pictures, recordings and documents/archives. Data sources are divided into two, namely: secondary data and primary data. Primary data is data obtained directly from the source. Secondary data in this study data obtained not directly by the source.

#### **Informant**

Informants are people who provide information. In this study regarding Waste Management at the Environmental Service of Malang City, using the Purposive Sampling technique (purposed sample) which means that researchers have set targets to be interviewed as the main source for obtaining information, namely: Head of UPT, Head of Waste and Hazardous Waste, Head of Garbage Handling Section, Garbage Transport Supervisor at the Malang City Environmental Service, and people who are involved in waste management in Malang City

#### **Data collection technique**

Data collection techniques used in qualitative research are interview techniques, observation techniques, and documentation techniques. Data analysis techniques in qualitative research are interactive analysis, namely: data collection, data reduction, data presentation, and drawing conclusions.

#### **Data Validity**

The validity of the data is to see the degree of truth or trust in the research results by using certain standardizations. In qualitative research, the data is declared valid if there is no difference between what is reported by the researcher and what actually happened to the object under study. The data validity test in qualitative research includes the credibility test (internal validity), transferability (external validity), dependability (reliability), confirmability (objectivity) (Sugiono, 2013:270).

### **4. Results**

Based on the results of field research on the implementation of waste management policies based on the Malang City Regulation Number 10 of 2010 it is explained as follows:

#### **Environmental Conditions in Malang City.**

The Malang City Environment Service in overcoming environmental problems carries out activities to see environmental developments, prevent and improve environmental conditions damaged by human and natural causes. In accordance with the results of interviews from informants, it was explained that the environmental conditions of Malang City could be monitored with good results although there

were several aerial monitoring points that needed to be reforested and some water points that had not been monitored due to budget constraints.

### **Community Participation in Waste Management.**

Community participation in waste management plays an important role in overcoming solid waste in Malang City. In addition to the government, the community is expected to participate starting from sorting waste, processing waste into goods that have a high selling value and maintaining environmental conditions from environmental pollution as a result of disposing of waste improperly. From the results of interviews with several informants, it was explained that the Malang City Government in this case the Environmental Service had carried out socialization and education activities to the community so that the community was more actively involved in managing waste that came from its source and utilizing waste as a source of income that has high economic value.

What Affects the Policy for the Implementation of Waste Management based on the Malang City Regulation Number 10 of 2010:

### **Policy Implementing Authority in Waste Management.**

The Environment Agency as the organizer in implementing waste management policies in Malang City has the authority to overcome waste problems and set standards and procedures in accordance with the applicable rules in waste management policies. From the results of interviews with informants, it was explained that the Department of Environment in the authority of implementing waste management policies carried out their duties starting from handling waste, reducing waste and disposing of waste from temporary disposal sites to landfills with the aim of reducing waste generation in Malang City. Various activities aimed at the community ranging from providing socialization, shining village competitions, and fostering the community about the use of waste in the community.

### **Resource:**

A resource is a value that has potential in a certain material or element that is in life, both physical and non-physical. The Malang City Environment Service in supporting the implementation of duties and responsibilities has the resources to make policy programs successful in accordance with applicable regulations by looking at:

### **Human Resources**

Human resources are the main factor in implementing the development process and achieving organizational goals. For this reason, the role of human resources in an organization is needed as the main element in the success of the organization. From the results of interviews with informants it was explained that the Human Resources owned by the Malang City Environmental Service had good quality, effectiveness and efficiency in waste management in Malang City although there was a shortage of personnel in the implementation of waste management and not yet fully human resources were placed in accordance with the requirements. with their fields and expertise.

### **Budget Resources**

The budget is a plan of costs budgeted by an organization to support activities within a certain period. From the results of interviews with informants, it is explained that there is a decrease in the amount of the budget that occurs from year to year and has an impact on the level of waste management in Malang City. The budget in the implementation of waste management is proposed based on the planned activity program with the total budget obtained reaching approximately 4% of the total existing budget.

### **Facilities and infrastructure**

Facilities are everything that can be used as a tool to support the achievement of goals and objectives, while infrastructure is a major support in the implementation of an activity. From the results of interviews with informants, it was explained that waste services in Malang City have been served well in five sub-districts which are divided into various urban villages, although there are several obstacles that occur in the field in waste services in Malang City, including the lack of a fleet of trucks transporting garbage, community/resident rejection, and access to garbage trucks. a road away from the generation of garbage.

### **Bureaucratic Structure in Waste Management**

The Malang City Environment Service is an agency that carries out its duties in the field of environment and solid waste in Malang City. Therefore, in carrying out these tasks, roles and responsibilities are given to each field and position to carry out their duties in accordance with the applicable laws and regulations. From the results of interviews with informants, it was conveyed that the implementation of activities in waste management in Malang City can be carried out in accordance with the main tasks and functions of each implementer according to the level of position held and guided by the Organizational Structure in the Malang City Environmental Service.

## **5. Discussion**

Based on the results of research from informants that have been submitted, in its implementation regarding the Implementation of Waste Management Policies based on Malang City Regulation Number 10 of 2010 it is submitted as follows:

### **Communication**

Communication is a very important part in carrying out an activity to achieve the objectives of the policies that have been made so that the targets and objectives of the policy can be implemented properly. Based on the results of the data obtained in the field, it is stated that communication between the Malang City Environment Service, the community and the private sector in waste management has been well established, this can be seen from various socialization activities, competitions, education and supervision carried out by the Malang City Environment Service in reducing waste management. Waste at the source. The lack of information for people living on the banks of the river is a note for the Environment Agency to continue to provide information and education about the importance of sorting waste from its source and disposing of waste in its place.

### **Resource**

In the implementation of waste management activities, resources are one of the important factors in supporting the successful implementation of Waste Management Policies in Malang City. In terms of Human Resources in waste management, it is still not fulfilled, this can be seen from the placement of implementers who are not in accordance with their fields and expertise and the lack of supervisors who are in the Supit Urang final disposal site. From a resource perspective, budget is also an important element in the policy implementation process. In the implementation of waste management policies, it is obtained from the Malang City Regional Budget and Assistance from the Central Government in the success of waste management activities, although there are a few budget limitations in overcoming environmental problems in Malang City.

### **Disposition**

When viewed from the side of the bureaucracy in waste management, it already has a bureaucratic structure that is in accordance with the duties and responsibilities of each implementer. Based on the data in the field, it can be seen the attitude, responsibility and cooperation of the implementers on duty from superior to subordinate levels in handling solid waste in Malang City. In terms of incentives, there is still a lack of motivation in the form of rewards for the implementers in the field. The reward given is in the form of wages/salaries received every month of work, however, the implementers of the activities always carry out their duties and responsibilities in overcoming the problem of waste in Malang City in order to create an environment that is cleaner and free from various problems as a result of increasing waste.

### **Bureaucratic Structure**

In its implementation, the structure established in waste management carries out its duties in accordance with Malang City Regulation Number 10 of 2010 concerning waste management which regulates waste problems starting from TPS and TPA maintenance, transportation of waste from TPS to TPA, waste processing, providing waste transportation facilities, and provide facilities at TPS and TPA. The existing bureaucratic structure has been carried out effectively in accordance with the Regional Regulation. This can be seen by the existence of good, effective and efficient coordination between superiors and subordinates in providing information about waste activities in Malang City.

## 6. Conclusion and Suggestions

### Conclusion

The results of the study indicate that the implementation of waste management policies based on Malang City Regulation Number 10 of 2010 concerning Waste Management in principle is to provide services to the public in accordance with the purpose of the Regional Regulation, namely to manage waste in the Malang City area. Waste management carried out by the Malang City Environment Service has been carried out effectively based on the implementation of existing rules. Although in the course of its implementation in the field, there are still several obstacles, namely the lack of waste transportation facilities and people who are less aware of disposing of waste in its place. The implementation of waste management can be seen from several aspects that have an impact on the implementation of the policy, including: From the communication side, from the resource side, from the disposition side, and from the Bureaucratic Structure.

### Suggestions

Based on the conclusions that have been conveyed, the suggestions that can be put forward in this study are as follows:

For the government in overcoming environmental problems in Malang City that have not been fully implemented, additional budget allocations are needed, additional waste transportation facilities, the need for a comprehensive 3R waste collection system in the community and at TPS in accordance with the necessary needs so that environmental problems can be implemented fully in a comprehensive manner. effective and efficient.

The private sector is expected to cooperate and participate in assisting the government in dealing with waste management at its source and utilizing waste as a valuable source.

For the community, there is a need for awareness to keep the environment healthy and clean by not littering, especially for people who are around the river and use waste that is still useful as a source of income.

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