Evaluation of Waste Management Policy in Malang City

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Abstract
Climate change is a challenge faced by various countries, including Indonesia, and makes it part of the Sustainable Development Goals (SDGs) agenda. This environmental phenomenon is influenced by various sectors, including waste, whose management in Indonesia has not been optimal. Malang City is one of the cities with the highest waste generation in East Java. Regarding waste management in Malang City, the City Government has issued the latest policy, namely Malang City Regional Regulation (Perda) No. 7 of 2021 concerning Waste Management. This regional regulation replaces Regional Regulation No. 10 of 2010 concerning Waste Management, which is no longer valid. This study aims to describe and analyze the evaluation of waste management policies in Malang City. The type of research used is descriptive with a qualitative approach. The evaluation method is the Context, Input, Process, and Product (CIPP). The data analysis technique used in this research is the interactive model analysis of Miles, Huberman, and Saldana. If we look at the evaluation results using the CIPP method, we find obstacles that must be resolved for the success of waste management policies in Malang City. These obstacles include facilities and infrastructure for waste management in Malang City, which still need to be met, the lack of community role in the program for sorting waste from the source, and waste management operations, which require large budget allocations.

Keywords: CIPP Model; Waste Management; Sustainable Development

Abstrak
Perubahan iklim menjadi tantangan yang dihadapi berbagai negara termasuk Indonesia serta menjadikannya sebagai agenda Sustainable Development Goals (SDGs). Fenomena lingkungan ini dipengaruhi berbagai sektor termasuk sampah yang tata kelolanya di Indonesia belum optimal. Kota Malang merupakan salah satu kota dengan timbulan sampah paling tinggi di Jawa Timur. Pada tata kelola sampah di Kota Malang, Pemerintah Kota telah mengeluarkan kebijakan terbaru yaitu Peraturan Daerah (Perda) Kota Malang No.7 Tahun 2021 tentang Pengelolaan Sampah. Perda tersebut menggantikan Perda No.10 Tahun 2010 tentang Pengelolaan Sampah yang sudah tidak berlaku lagi. Penelitian ini bertujuan untuk mendeskripsikan dan menganalisis evaluasi kebijakan pengelolaan sampah di Kota Malang. Jenis penelitian yang digunakan yaitu deskriptif dengan pendekatan kualitatif. Metode evaluasi yang digunakan yaitu metode Context, Input, Process, and Product (CIPP). Teknik analisis data yang digunakan dalam penelitian ini adalah interactive model analysis Miles, Hubermana, dan Saldana. Jika dilihat dari hasil evaluasi menggunakan metode CIPP, maka ditemukan hambatan-hambatan yang harus diselesaikan demi keberhasilan kebijakan pengelolaan sampah di Kota Malang. Hambatan tersebut meliputi sarana dan prasarana dalam pengelolaan sampah di Kota Malang juga masih belum terpenuhi, minimnya peran masyarakat dalam program pemilahan sampah dari sumbernya, serta operasional pengelolaan sampah yang memerlukan alokasi biaya yang besar.

Kata Kunci: Model CIPP; Pengelolaan Sampah; Pembangunan Berkelanjutan

Introduction

Sustainable Development Goals (SDGs) are the basis for the Indonesian Government in carrying out sustainable development. Climate change is a challenge faced by various countries, including Indonesia, and has made it part of the Sustainable Development Goals (SDGs) agenda. Various problems influence this environmental phenomenon. One of them is the waste problem. Sustainable development in handling waste problems is contained in goal 11 of the SDGs regarding the development of cities and settlements that are inclusive, durable, safe, and sustainable. The waste problem is a problem that occurs because of an imbalance between waste generation and waste management (Leonardo et al., 2023). Malang City is one of the producers of high waste generation in East Java. The amount of daily waste generated in 2021 will reach 677.78, while in 2022, it will reach 764.79 tons (Ministry of Environment and Forestry, 2022).

The amount of waste produced in Malang City has also increased in the last three years. If it is a percentage, the increase from 2022 to 2023 will reach 25%, with an average daily waste production of 880 tons and a percentage of waste reduction that is not yet a maximum of 100% (Malang City Environmental Service, 2023).This large amount of waste generation makes the waste problem a strategic issue in the Malang City Regional Medium Term Development Plan (RPJMD) 2018-2023 (Malang City Government, 2019). Waste management is one of the government's priorities, and it is essential to continue to innovate in managing and processing waste. Apart from creating a clean and healthy environment, this is also part of the efforts of the Malang City Government, which is committed to actively fighting climate change by implementing local Malang City initiatives on the global agenda.

To overcome public problems, public policy is needed. Public policy is born from the needs and problems faced by society. In the policy, some directions and prohibitions can guarantee the implementation of a directed development process in accordance with the agreed objectives (Desrinelti et al., 2021). A policy must be stated in laws and regulations (Safira, 2018). This is because, in statutory regulations, there is a system that is coercive and binding. The Malang City Government has issued various policies to overcome the waste problem in Malang City. Law Number 18 of 2008 concerning waste management states that implementing waste management is one of the tasks of the central government and regional governments to form an appropriate waste management policy.

Regarding waste management in Malang City, the City Government has issued the latest policy, namely Malang City Regional Regulation (Perda) No. 7 of 2021 concerning Waste Management. This regional regulation replaces Regional Regulation No. 10 of 2010 concerning Waste Management, which is no longer valid because it is considered not in accordance with legal developments. Regional Regulation Number 7 of 2021 has integrated the reduction paradigm from upstream, namely from the household. To determine the success of the policies that have been implemented, evaluation is needed. Policy evaluation aims to improve policies as well as assess the success of development achievements. With evaluation, you can find out the obstacles that prevent a policy from achieving its stated goals optimally. Evaluation is often interpreted as an assessment of the results of an activity or process, which is used to determine the value of implementing a policy, program, activity, or level of success in achieving specified goals (Riyadi & Bratahkusumah, 2004).

Previous research stated that the evaluation of the existing waste management system at the Tuban Regency, aims to find out what steps must be implemented by the Tuban Regency Government in formulating public policies. The results of this research indicate that corrections are needed to implement a sanitary landfill system by increasing the number of technical personnel managing landfills, reviewing institutional forms and

establishing regional regulations regarding community participation in waste management (Mayangkara, 2016). Previous research shows the importance of policy evaluation in formulating future Waste Management policies. It is hoped that the evaluation results will be closer to the actual conditions so that recommendations for improvement steps can be submitted as input. The evaluation technique commonly used to assess the success of policy implementation is by using performance evaluation. Performance evaluation basically aims to evaluate the performance that can be achieved at the level of policies, programs, and activities for each sector or regional apparatus (Syafrizal, 2016). In this research, the author uses performance evaluation to assess waste management policies in Malang City. The analysis technique used to evaluate performance is the CIPP (Context, Input, Process, and Product) technique. CIPP is considered appropriate and comprehensive for evaluation because it reviews it in terms of context (covering vision, mission, and objectives), input aspect (covering support resources), process aspect (covering implementation), and product aspect (Pratiwi et al., 2019). So, this research aims to describe and evaluate policies in waste management in Malang City using the CIPP (Context, Input, Process, and Product) technique.

Methods

This research uses a qualitative method with a case study approach. The qualitative method is a method that places the researcher as the vital instrument where data collection techniques are carried out in a combined manner, data analysis is inductive, and research results emphasize the meaning of generalization. The selection of informants in this research was done by means of purposive sampling, where the informants were selected subjectively with the intention that the selected informants had the information needed for the research to be carried out. The informants in this research were the Environmental Service and the Malang City Waste Management Technical Control Unit. Data sources in this research are divided into two types, namely primary data and secondary data. Data collection techniques were obtained from interviews, observation, and documentation. Data analysis is an activity of processing data to make it simpler, easier to understand, and can be used to describe conditions clearly. The data analysis technique used in this research is Creswell qualitative data analysis with the following steps: 1. process the data and prepare the data for analysis, 2. read the entire data, 3. analyze in more detail by coding the data, 4. apply the process coding to describe settings, people, categories, and themes for later analysis, 5. showing how these descriptions and themes will be written in narratives or qualitative reports; 6. interpreting data

Results and Discussion

Policies that relate to the public are called public policies (Sirajuddin, 2016). Public policy is born from the needs and problems faced by society. Regarding the waste problem in Malang City, the Government issued Malang City Regional Regulation No. 7 of 2021 concerning waste management. To determine the success of a policy, evaluation is needed. Evaluation means comparing what has been achieved with what should be achieved based on the evaluation model applied. The evaluation technique used in this research uses the CIPP (Context, Input, Process, and Product) model. Here is the explanation:

1. Context Evaluation

Context Evaluation is an evaluation that produces a context related to the environment and describes aspects that must be considered in planning related to the goals to be achieved. The objectives of the Malang City Regional Regulation No.7 of 2021 concerning waste management are:

a. Realizing waste service performance that is effective and environmentally friendly;
b. Turn waste into a resource;
c. Improve public health and environmental quality; And
d. Increase the participation of the community and business actors to reduce and handle environmentally sound waste actively.

To achieve the goals set above, direction and prohibitions are needed in a policy. The direction of the Malang City government through the Malang City Environmental Service in managing waste in Malang City is to apply the 3R principles, namely reduce, reuse, and recycle. Reduce means reducing or saving on the use of goods, Reuse means using or reusing goods that are considered useless, and recycle means recycling (Lestari et al., 2020). Implementing 3R waste management will create a clean and healthy environment, and there will even be economic benefits from further waste processing.

Based on Malang City Regional Regulation (Perda) Number 7 of 2021, throwing rubbish anywhere can be subject to sanctions. Be it in the form of fines or imprisonment. In article 45, there are four points of prohibition regarding waste, namely that every person is prohibited from throwing rubbish not in the place that has been determined and provided. Second, everyone is prohibited from handling waste by open disposal at the final processing site. Third, people are prohibited from burning waste that does not comply with the technical requirements for waste management. Fourth, everyone is prohibited from mixing waste with hazardous and toxic waste. So, every person who violates, according to article 49, will be threatened with imprisonment for a maximum of 3 months or a fine of a maximum of IDR 50.000.000.- In the policy, there must be directions and prohibitions that can guarantee the implementation of the development process in a directed manner and in accordance with the stated objectives. agreed (Desrinelti et al., 2021). If you look at the objectives in the Waste Management Policy in Malang City, there are already directions and prohibitions to achieve the agreed objectives

2. Input Evaluation

Input Evaluation is an evaluation to achieve goals with components that are seen as resources or supporting facilities and equipment (Darodjat & Wahyudhiana, 2015). Resources are vital to support policy implementation, such as people, materials, and implementation methods (Kartini, 2017). The development of waste production will increase every year if a competent handling process does not accompany it. So, this waste problem will become a long-term problem if it is not handled seriously by the local government. There is still an accumulation of waste volumes in temporary waste disposal sites, which is indicated as a result of the temporary waste disposal facilities being unable to accommodate the amount of waste produced each day (Asep et al., 2023). The availability of waste management facilities and infrastructure in Malang City is still limited, one of which is in the form of waste disposal sites (TPS) in each sub-district.

Table 1. Number of Waste Disposal Sites (TPS) in Malang City

No	District in Malang City	Number of TPS Managed in Malang City		
		2020	2021	2022
1	Kedungkandang	10	11	11
2	Sukun	13	12	15
3	Klojen	10	10	9
4	Blimbing	12	15	19
5	Lowokwaru	14	17	20
	Amount	59	65	74

Source: Malang City Environmental Service, 2023

The data from the Malang City Environmental Service above shows that the Malang City Government manages 74 waste collection sites (TPS). This figure has increased compared to 2021, which had 65 polling stations. However, with the increase in TPS in Malang City, it still does not meet the existing waste volume. Ideally, there should be one TPS in each village. However, conditions in Malang City. Each existing TPS can currently accommodate 3 to 4 sub-districts. The high production of waste and the minimal number of rubbish trucks in Malang City have resulted in many Temporary Shelters (TPS) in Malang City not functioning. As a result, much rubbish has piled up at residents' disposal sites because it was late being transported to the TPS. One problem is that TPS is not active because there are no fleets to pick up waste there. One of them is at Cemorokandang TPS and TPS in residential areas. There are only 44 waste transport fleets in Malang City. Even though ideally, 1 TPS has one waste transport fleet. Inadequate waste disposal sites and a lack of appropriate landfill management systems are common problems faced in waste management in Indonesia (Mahyudin, 2017)

Funding is one of the obstacles to implementing an ideal policy model for waste management in Malang City. This is because waste management operations require large budget allocations. The results of the evaluation of inputs show that the availability of operational budgets and infrastructure for waste management has not been met. In fact, the ability to utilize resources and the availability of facilities and infrastructure is the key to implementing development or a factor that significantly influences the success of policies, programs, and activities (Hariani, 2015). Facilities and infrastructure are essential in implementing waste management and utilization practices effectively to achieve the stated goals.

3. Process Evaluation

Process Evaluation is an evaluation to determine the effectiveness of implementing activities and to find out whether implementation runs smoothly and what obstacles arise during implementation. To overcome the waste problem in Malang City, the Malang City Environmental Service is running a waste and B3 waste management program. The waste management activity program consists of 4 (four) sub-activities, namely:

a. Preparation of Regional Waste Management Policies and Strategies
b. Handling waste by sorting, collecting, transporting, processing, and final processing of waste at the Regency/City TPA/TPST/SPA (Waste Sector and LB3)
c. Handling waste by sorting, collecting, transporting, processing, and final processing of waste at Regency/City TPA/TPST/SPA (Waste Management UPT)
d. Provision of Waste Management Facilities and Infrastructure at Regency/City TPA/TPST/SPA

Malang City's strategy in waste management is to strengthen community participation through the 3Rs and maximize the role of the Malang Waste Bank. Since the regional regulation was implemented until now, there has been no movement from programs aimed at deterring litterers, even though public compliance with binding legal regulations is still low. As an effort to manage waste, the Malang City Government has created activities such as 3R Cadre (reduce, reuse, recycle), Proklim (Climate Village Program), Adiwiyata School, Eco Pesantren, and several other environmental activists.

The waste problem in Malang City becomes more complicated when the public does not have the care and awareness to separate the increasing amount of organic and inorganic waste. People's awareness of separating organic waste from inorganic waste is not because they do not care about the environment. Some people do not know about this; some already have an awareness of the environment and separate organic waste from inorganic waste, but because the trash carts are inadequate, the waste officers mix organic

and inorganic waste, which has been separated into one, there are even people who deliberately mix organic and inorganic waste because of the lack of public facilities provided, for example, rubbish bins that separate organic waste from inorganic waste. The government cannot complete waste management well if the community does not support it. The process of implementing policies is not only carried out by established government institutions, but also the implementation of public policies is determined by community involvement (Juliastuti, 2013). Optimal efforts to reduce waste, namely by establishing a waste management system such as collaborating with various communities to carry out movements to minimize the use of waste materials that are difficult to describe (Selvia & Suminar). Therefore, the community needs to be empowered to increase their knowledge and abilities regarding waste management. The waste problems in Malang City are so complex that collaboration between various parties is needed.

4. Product Evaluation

Product Evaluation is an evaluation to measure and interpret development achievements so that the impact of implementing a policy/program can be known. The percentage of waste reduced in Malang City increases every year. The City Government (Malang won the 2022 Adipura award from the Ministry of Environment and Forestry. This Adipura award was given because Malang City succeeded in overcoming the problem of 726 thousand cubic meters of waste from 680 tons of waste that had piled up at the Supiturang Final Processing Site (TPA), Malang City. Malang City is considered to support the achievement of national targets. The Indonesian government has set the main national targets related to waste management, namely 30% waste reduction and 70% waste handling by 2025.

Even though the percentage of waste reduced each year increases, in 2021, it is 24.12%, and in 2022, it is 25.65%, but the amount of waste generated each year also continues to increase. The waste management balance shows that the amount of waste generated from 2021 to 2022 increased by 12.84%, and unmanaged waste increased by 10.79% (Malang City Environmental Service, 2023). This is because public awareness in reducing and sorting waste is still not optimal. This problem does not only occur in Malang City but also other big cities in Indonesia.

Conclusion

Based on the evaluation results using the CIPP (Context, Input, Process, and Product) method, the waste management policy in Malang City is still not running optimally due to the obstacles faced. The recommendations given in an effort to optimize waste management policies include strengthening the role and cooperation of cross-sectors and community leaders, enforcing legal rules regarding careless waste disposal, and increasing knowledge of waste management in the community using an empowerment approach.

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