Policy Implementation of Solid Waste Management by The Environmental Office of Bekasi Regency

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Abstract

Policy implementation of solid waste management is a part of public policy to implement in order to create a safe, sound environment and public space for the people. Bekasi Regency government contributes to solid waste management in their region that they assign the Environmental Office to hold the main role in implementing the policy. Thus, this study sought to profoundly describe the policy implementation of solid waste management by the Environmental Office of Bekasi Regency. This study used qualitative approach with "single instrumental case study" strategy by selecting a relevant case and focusing on the given phenomena and problems. The results show that policy implementation of solid waste management by the Environmental Office of Bekasi Regency has not been optimized due to the limited capacity of the Office in providing resources and budgets, creating new innovations, and influencing people's mindset. However, it can be said that Environmental Office has been good enough in making policies and efforts for solid waste management since they have been synergized with those of the above level.

Keywords: Policy Implementation, Public Policy, Solid Waste Management, Bekasi Regency

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INTRODUCTION

Public policy realizes a country's efforts by implementing many actions to deal with any public issues (Agustino, 2016; Béland, 2017; Rusli, 2013; Stewart, 2013; Winarno, 2012). Public policy is critical to be realized by the government in order to solve a phenomenon through intensive interactions of public interests.

Public policy is made through various stages to deal with public issues and problems, where the core stages consist of formulation, implementation, and evaluation (Birkland, 2015; Dunn, 2018; Wright, 2015). Implementation is the most influential element of public policy, because the success of this stage is represented by the government's achievement in realizing the objectives. In fact, policy implementation is also needed to overcome challenges and problems in various fields, including the environment, in order to realize a sustainable development in every country (Atkinson, 2014; Cheng & Tong, 2017).

Today, one of crucial issue that should be addressed by an ideal policy is solid waste management, an inseparable part of environmental issues. Solid waste management is an effort to manage solid, used objects, either organic or non-organic waste, including plastic, metal, and paper, as well as household and industrial waste, through various processes (Nnaji, 2015; Pires, Martinho, Rodrigues, & Gomes, 2018; Poletto, De Mori, Schneider, & Zattera, 2016; Rajesh, 2019; Vyas, 2010; Yetis et al., 2015).

The success or failure of solid waste management also relies on policies implemented by the central and local governments (Dangi, Schoenberger, & Boland, 2017; Fernando, 2019; Marino, Chaves, & Junior, 2018; Premakumara, Canete, Nagaishi, & Kurniawan, 2014). This is due to the fact that the goal of solid waste management is to create a safe, sound environment and public space for

people in every country. Therefore, the government needs to accommodate and implement a good solid waste management throughout the nation through their policies.

Indonesia is also one of the countries that contribute to creating a sustainable environment, which one of them is solid waste management, even though the country still has a lot of work to do to realize it. In fact, Indonesia has contributed for producing the majority of solid waste in the world of 3.22 million metric tons, and 83% of its management has not been well-applied (Jambeck et al., 2015). These conditions will affect the implementation of solid waste management in each region.

Bekasi Regency is one of the regions that has contributed to solid waste management in their region that they assigned the Environmental Office to hold the main role in implementing the policy. This is also a manifestation of decentralization given by the central government and stated in Law Number 23 Year 2014 concerning Local Government.

The implementation of solid waste management in Bekasi Regency mainly refers to Law Number 18 Year 2008 concerning Waste Management and Minister of Home Affairs Regulation Number 33 Year 2010 concerning Guidelines for Waste Management, which does not only emphasize the processes, but also the public involvement in creating a safe, sound environment and public space.

However, the writers found some indications that Bekasi Regency has not been able to well-implement solid waste management. This is evidenced from the findings of solid waste on the roads and in the rivers in Bekasi Regency (Antaranews, 2019; Detik, 2019), and even the imported one (Kompas, 2019; Pojok Bekasi, 2019).

Based on these phenomena and problems, the writers set the aim of this study: to profoundly describe the policy

implementation of solid waste management by the Environmental Office of Bekasi Regency.

RESEARCH METHODS

The writers employed qualitative approach and "single instrumental case study" strategy by selecting a relevant case and focusing on the given phenomena and problems related to the topic of the research (Creswell & Poth, 2018).

Interview, documentary study, and observation were employed as techniques for collecting data. The writers interviewed six relevant informants who have important links in solid waste management in Bekasi Regency. The informants were from the Environmental Office consisting of the Head of Planning Subdivision; Head of Financial Subdivision; Head of Personnel Subdivision; Head of Sanitation Division; Head of Infrastructure and Facilities Section; and Local Technical Implementation Unit (UPTD) of Final Disposal Site of Burangkeng of Bekasi Regency.

To analyze data, the writers applied data reduction, data presentation, and conclusion drawing (Miles, Huberman, & Saldana, 2014) by referring to Smith's theory of policy implementation to simplify and clarify the the writers' analysis on this research topic. The theory consists of 4 aspects: *the idealized policy*; *the target group*; *the implementing organization*; and *environmental factors* (Smith, 1973).

RESULTS AND DISCUSSIONS

The Idealized Policy

The first aspect describes the relationship patterns created by the Environmental Office of Bekasi Regency as the *leading sector* in managing solid waste and encouraging the target groups to comply with all applied policies and regulations.

The derivative policy of solid waste management in Bekasi Regency is outlined

in Bekasi Regent Regulation Number 17 Year 2017 concerning Waste Management. The regulation is covered from Law Number 18 Year 2008 and Minister of Home Affairs Regulation Number 33 Year 2010, to the management of solid waste in Bekasi Regency.

First, solid waste is collected in stages, from community trash containers to temporary waste disposal sites (TPS) and transfer station to the final disposal sites (TPA), by waste transport vehicles provided by the Environmental Office of Bekasi Regency, to be reprocessed or otherwise built up.

Second, the solid waste management could be done in many ways, such as incineration, sanitary landfill and other ways in line with the latest technological development and possible needs.

Third, solid waste management sites must be present in every area, from residential to industrial. The solid waste management is carried out by the Local Technical Implementation Unit (UPTD), a subsidiary of the Environmental Office, or even non-government waste management agencies, either individual- or community-based. The agencies are required to have a waste-producing people, operational management, operational cost, infrastructure, and service permit from the Government of Bekasi Regency, which in this case is represented by the Environmental Office. The managements process the solid waste by sorting the waste into organic and inorganic, excluding unrecyclable residues and hazardous toxic materials (B3).

Fourth, solid waste services should be provided by the Government of Bekasi Regency, either represented by the Environmental Office or other lower-level government agencies. The waste services consist of:

1. Direct services, including collection, transportation, processing and final processing;
2. Indirect services, including:

- a. Initial service in the form of waste collection from the waste producer to the Temporary Waste Disposal Site (TPS) and transfer station;
- b. Final service in the form of waste transport from the TPS and transfer station to the Final Disposal Site (TPA);
- c. Incidental service in the form of final service for waste-producing communities who deliver their own waste to the transfer stations, the TPS, or waste containers of the Local Government.

For the procedure of solid waste service application applies the following stages:

1. Applying service permit by filling out a form that is provided and processed by the Environmental Office;
2. The environment office conducts a site review no later than 7 days after the date of receipt of the complete, correct application;
3. Based on the results of site review, the environment office determines: types of service, types and rates of fee, and fee payment system.
4. There is a form of agreement on the establishment of solid waste services should be made.

Fifth, the Environment Office with the other of Local Government of Bekasi Regency concerned provides assistance to solid waste management agencies in the forms of guidance, infrastructure, and public socialization.

Sixth, the Environmental Office also conducts periodic monitoring, supervision, and guidance in order to supervise the activities of solid waste management, to evaluate the performance of the system, and to explore potential data to develop a better solid waste management.

In addition to Bekasi Regent Regulation, the Environmental Office also implements another policy referring to the Minister Regulation Number 13 Year 2012

concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle through Waste Banks. The intended application was stated by the Head of Sanitation Division of the Environmental Office of Bekasi Regency that they built waste banks as a form of continuous solid waste management in order to create new products with good economic values. He also stated that in 2019 Bekasi Regency had built 106 waste banks across 23 sub-districts.

There is also another regulation of solid waste management in Bekasi Regency, i.e. Bekasi Regency Regulation Number 4 Year 2012 concerning Public Order. The regulation says that any individuals or groups who are found littering in any public places and/or rivers will get 6 months imprisonment or a fine of Rp50,000,000.00. The condition proves that the Local Government of Bekasi Regency, in this case the Environmental Office, has made efforts to enforce laws in order to create a clean, safe, and sound environment.

Referring to Smith (1975), the two government regulations, which are previously mentioned, is a form of "incremental policy". Because they made to specify central government regulations and to guide the implementation of solid waste management in Bekasi Regency. Hence, this indicates that the Government of Bekasi Regency has a strong commitment and support to create a clean and healthy environment.

However, the two government regulations have not been applied optimally. Based on an interview with the Head of the Sanitation Division of the Environmental Office, it is found that there are piles of solid waste at several points in every sub-district of Bekasi Regency, and even in the river of Cikarang Bekasi Laut (CBL). This problem has also been lightly touched in the introduction that there are even piles of imported solid waste. These

certainly disturb public order since they are not pleasing to the eye and polluting the environment, and eventually affecting people's health.

The Head of the Sanitation Division of the Environmental Office confirmed these situations. He explained that it was still difficult to enforce the laws against the violators, i.e. those who disposed household solid waste, a kind of household solid waste, and toxic hazardous materials (B3), because of limited resources and time to investigate the actual violators.

Nevertheless, in collaboration with the Ministry of Environment and Forestry, they once managed to enforce the laws by revealing an unauthorized party who disposed solid waste containing toxic hazardous materials (B3) in South Cikarang (The Ministry of Environment and Forestry of the Republic of Indonesia, 2020).

The Sanitation Head also confirmed the findings of imported solid waste in Final Disposal Site (TPA) of Burangkeng and even beyond it. However, the Environmental Office and the relevant government agencies have handled it and are seeking to prevent it in the future. He explained that actually importing waste is permissible as long as it complies with the Regulation of the Minister of Trade Number 84 Year 2019 concerning Provisions on the Import of Non-Hazardous and Non-Toxic Waste for Industrial Raw Materials.

Target Group

This aspect describes the extent to which the most influential target groups predetermined by the Environmental Office of Bekasi Regency must be able to adapt to various policies and new patterns of solid waste management.

The first target groups are the sub-district and village governments. As stated in Bekasi Regent Regulation Number 17 Year 2017 concerning Waste Management, the Environmental Office of Bekasi

Regency gives them the mandate to carry out various activities as follows:

1. Implementing solid waste management in their respective regions;
2. Carrying out the guidance for the people to manage solid waste in their respective regions;
3. Implementing "Clean Friday" program to clean the surrounding environment from solid waste in their respective regions;
4. Direct cooperation between the village-subdistrict governments and the Local Technical Implementation Unit of the Final Disposal Site of Burangkaeng regarding the solid waste final disposal;
5. Provision of facilities for solid waste transport and management.

The second target group of solid waste management policy is non-government waste management agencies, either businesses or service providers. The underlying point for the agencies, if they have not been able to carry out waste management independently, they can work together with an authorized provider of solid waste management services. In addition, the mechanism of solid waste management must comply with the policies and regulations of the Environmental Office of Bekasi Regency, from collection, sorting, processing to transport to the Temporary Waste Disposal Site (TPS) or the Final Disposal Site (TPA).

The third target group is the people. As far as the writers are concerned, the Environmental Office has tried to implementing solid waste management to every family through the utilization of Family Identity Cards. The people is also the directly-affected target group since they are the main solid waste producers. Therefore, the leaders and the subordinates of the Office should be able to develop a solid waste management system in Bekasi Regency.

For this reason, the Office undertakes efforts to transport solid waste by dividing Bekasi Regency into 6 regions, each of which is held by a Local Technical Implementation Unit (UPTD), in order to make an evenly solid waste management in all sub-districts.

However, the environmental office has not been able to realize the transportation service to the fullest. Based on table 1, they are still unable to carry out services up to 10%, either in parts or as a whole.

Table 1. Solid Waste Transportation Service

Local UPTD	Subdistrict Coverage	Percentage of Services
1	Babelan, Cabangbungin, Muaragembong, Tarumajaya	7.9%
2	Sukawangi, Tambelang, South Tambun, North Tambun	5.8%
3	Cibitung, West Cikarang, Setu	9.7%
4	North Cikarang, Karang Bahagia, Sukatani, Sukakarya	6.7%
5	Central Cikarang, East Cikarang, Kedung Waringin, Pebayuran	9.3%
6	Bojongmangu, Cibarusah, South Cikarang, Serang Baru	8.6%
Percentage of Overall Services		7.8%

Source: The Environmental Office of Bekasi Regency, 2019

The Sanitation Head confirmed the conditions, due to limited resources in serving the whole community of 623,026 households, based on Family Identity Cards. However, the Environmental Office has been able to well-facilitate other parties such as the sub-district and village governments, businesses, and solid waste management service providers, and they

have complied with the applicable rules and procedures.

Based on the above conditions, it can be said that the Environmental Office has mapped the target groups appropriately, despite the ineffective implementation of solid waste management.

The Implementing Organization

This aspect describes the extent to which the implementing organization responsible for solid waste management in Bekasi Regency implements the policy. Based on the writers analysis, the implementing organization of the solid waste management policy in Bekasi Regency consists of main and supporting implementers.

The main implementer comprises 2 parties: the Environmental Office and the Local Technical Implementation Unit. In the policy of solid waste management in Bekasi Regency, the tasks of the Environmental Office as the *leading sector* are formulating, implementing, guiding, and evaluating. Then, the Local Technical Implementation Unit consists of several units: the Local Technical Implementation Unit of Waste Management of 6 regions and the Local Technical Implementation Unit of the Final Disposal Site of Burangkeng of Bekasi Regency. These units have to directly implement the solid waste management in the field, from transportation service to final processing in the Final Disposal Site.

The supporting implementers are the sub-district and village governments. Their task is assisting the Environmental Office and Local Technical Implementation Units in managing solid waste in their respective regions by doing relevant activities and/or promotions.

In addition, the leaders of the implementing organizations must have a strong commitment to realize an optimal solid waste management. Given this context, it leads to the leadership of Bekasi

Regent and the Head of the Environmental Office.

Based on interviews with five informants from the Environmental Office and the Head of the Technical Implementation Unit of TPA Burangkeng of Bekasi Regency, it can be said that the leadership of the two of them are already good. Because both of them have synergized their leaderships with central government and West Java Provincial Government policies to create a good environment through the commitment of Bekasi Regent represented in his vision of realizing the "Environmentally Friendly" Bekasi Regency and his mission of "realizing natural resource management and sustainable environment."

And then, the commitment is carried out by the Head of the Environmental Office by developing a system for solid waste management in Bekasi Regency and adjusting to the 2030 sustainable development goals (SDGs) agenda in order to realize a sustainable city and community through the realization of clean and healthy public spaces.

However, in implementing the policy, there are several obstacles in conducting solid waste management in Bekasi Regency. One of the obstacles is waste transportation, in which Bekasi Regency can only transport 46.5% of solid waste in 2018 (BPS of West Java Province, 2019).

Based on the writers triangulation through interviews with the Head of Financial Subdivision, the Head of Sanitation Division, and the Head of Infrastructure Section of the Environmental Office, it is found that the condition is true, due to limited provision of waste transport vehicles and other supporting technologies as well as limited Local Revenue Expenditures Budget, particularly to invent a sustainable solid waste management. They also added that operational vehicles to transport solid waste were ideally 400 units, but there were only 222 units available in 2019.

In addition, according to the Head of Personnel Subdivision, the condition is also due to the lack of freelance cleaning staff to transport solid waste and of state civil apparatus to implement solid waste management policy. However, the government is seeking to increase human resources to meet the needs and budget, particularly through the civil servant recruitment since 2018.

Environmental Factors

This aspect describes factors that influence or are influenced by the implementation of solid waste management policy. The result shows that there are three influencing factors in the implementation of this policy.

The first factor that the authors emphasize is culture. Based on an interview with the Head of the Sanitation Division of the Environmental Office, solid waste management is not only based on policies or regulations, but also people's mindset of disposing solid waste to the right place. However, there are still many people who litter, either on the road or even in the river. In fact, the Environmental Office and the relevant government agencies have socialized the implementation of ideal solid waste management to the people.

The second factor is natural environment. Continuing the previous statement on the first factor, people's littering-mindset creates an unhealthy environment that can even lead to natural disasters. The Head of Sanitation Division said that impact in the form of a flood might occur, as one in early January 2020, even though it involved from external factor.

Therefore, this condition raises the third factor, i.e. economy. According to the Head of the Sanitation Division, it is necessary to instill an economic side in solid waste management, which can be used as a selling value and even income. He also explained that the availability of

waste banks as a form of continuous solid waste management can be used as economic value. But, the current forms of its application are small and medium business products and compost, whereas source of sustainable energy has not been realized yet due to limited budget.

CONCLUSION

Based on the results of this research, it can be concluded that policy implementation of solid waste management by the Environmental Office of Bekasi Regency has not been optimized. This is due to the limited capacity of the Office in the management of solid waste to provide either resources, budgets, or new innovations. This is also due to people's improper mindset of managing solid waste.

However, it can be said that the Environment Office has been able to carry out its duties quite well in policy making and various efforts related to solid waste management. This is due to the synergy of central and local regulations in creating a sustainable, clean, healthy environment that is free from solid waste in Bekasi Regency, even though their implementation is still far from ideal.

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