



Municipal Solid Waste Management Policy of Parepare City

Lukman A^{a*}, Fadillah Amin^b, Alfi Haris Wanto^c

^a Brawijaya University, Malang, Jawa Timur, Indonesia

^b Brawijaya University, Malang, Jawa Timur, Indonesia

^c Brawijaya University, Malang, Jawa Timur, Indonesia

INFORMASI ARTIKEL

Article history:

Received: 23 April 2017

Accepted: 25 June 2017

Available online: 28 September 2017

Keywords: municipal solid waste management, Pare- Pare city, Strategy

ABSTRACT

Municipal solid waste management policy still be a big problem in developing worlds. However, How to deliver and implement policy is still debatable. This study examines how the strategy of the municipal city in Managing Municipal Waste in Parepare City, South Sulawesi Province, Indonesia. This study laid the Edward III ' theory in addressing the implementation of policy base on 4 (four) major factors: communication, resources, disposition, and bureaucratic structure. This study examines the strategy of Parepare city government in combating municipal waste under those 4 (four) aspect. Data come from the 5 key informants and other official municipal is statistics of Parepare city. Results of this study show that communication, resources, disposition, and bureaucratic structure significantly interrelate each other and support the strategic in implementing the policy in municipal waste management of Parepare City. The findings suggest that communication, fitting bureaucratic structure, use of technology, and works in strategy through better collaboration among city agencies, and strengthening citizens' awareness in winning and regaining beautiful city award, as like Adipura.

2017 FIA UB. All rights reserved.

1. Introduction

The waste problem is a serious concern for all countries in the world, includes Indonesia since long time ago. According to World Bank (2012) data, the amount of solid waste produced by Indonesia reaches 61,644 Ton per day. Indonesia ranks fourth in Asia after China, Japan and India. This shows that waste production in Indonesia can be quite high compared to other countries in Asia..

In recent years, the notion of integrated waste management, applied to reduce waste at its source before it even enters the waste stream, has spread. It means that waste materials generated must be recovered for reuse and recycling, and the rest should

be disposed at landfill sites. Unfortunately, disposal is not a sustainable solid waste management solution (Nguyen, 2009:1982). Most people are still applying the principle of end-of-pipe, where the final destination of garbage is at the landfill. Consequently, the capacity of landfill space will be quickly reduced, so that the government will find a solution by finding new land for the landfill. This is because there are still many who regard that waste does not have an economic value and is not useful.

In Indonesia, the paradigm has been begun to be abandoned since a few years ago, and the public was introduced with a new paradigm namely "reduce at the source". Since the law number 18 of 2008 on waste management, the community has been emphasized to manage waste from the source. Waste management is

* Corresponding author. Tel.: +62 821-1443-0009; e-mail: luck45tilova@gmail.com

carried out comprehensively from the upstream before it produced a product that has the potential to be trash, to downstream, namely the phase of the product were used to trash, which is then returned to the environment safely. The new paradigm of waste management is implemented with waste reduction and handling. Waste reduction activities include restricting, reusing, and recycling, while waste management activities include the sorting, collecting, transporting, processing and final processing (The Law No.18 Year 2008). Meanwhile, the government regulation number 81 of 2012 clearly described the waste management include; sorting, collection, transportation, processing, and final processing of waste.

Although there are policies regulating waste sorting as an effort to reduce the amount of waste to be transported to the landfill, the implementation is not maximized. Existing legislation as if only as a symbol without implementation across the region. In Indonesia, only a small percentage of people applying sorting of waste in waste management efforts in their area. And that's they do just because to support Waste Bank program that has been introduced since 2008. It means that the Indonesian society implemented waste sorting as one part of the implementation of the waste bank program. And their aim solely to profit by selling their garbage that has been sorted into the Waste Bank. So, people who are distant from the waste bank or not located in areas that implement waste bank program will not do the sorting of waste in the household. Because they are not supported with adequate facilities to bring their trash that has been disaggregated. So the policy of waste sorting only functions and implemented by society on a small part of Indonesia. It is certainly a challenge for both the central government and local government in order to implement better waste management in accordance with applicable law, as a guarantee to hold a sustainable waste management.

Parepare City, as like other municipals in Indonesia, has two major problems, such as: rapid densely populated areas and geographically potential in generating municipal solid waste.

Parepare is one of the regions with population density is above average for all regions in Indonesia. For the province of South Sulawesi, the city of Parepare is the second densely populated area after the city of Makassar as the capital of the Province. Calculated by using Board of Indonesian Statistics (BPS), the population density in Parepare city increases significantly every year. The population of Parepare city in 2015 was 138,699 inhabitants, resulting in a population density of 1,397 people per KM², because the area of Parepare city is only 99.33 KM². Population growth rate of Parepare City is 1.42% from 2010 to 2015 (Central Bureau of Statistics of

Parepare city, 2016). From the national data, the population density of the city of Parepare is ranked in the top 60 of 508 cities and districts in Indonesia. Compared to all regions in Sulawesi Island, the level of density of Parepare city is 4th, after Makassar, Manado, and Gorontalo. That means in the province of South Sulawesi, the city of Parepare is the second most populous city after the provincial capital, Makassar (Central Bureau of Statistics, 2016).

Likewise, Geographically, the city of Parepare laid at central and also a stopover for the people who came and crossed the province of South Sulawesi. As a port city, directly or indirectly, this geographical aspect contributes on the increase in the number of passing and temporary residents in the city of Parepare. So the potential for waste generation in Parepare City will be bigger than other areas in South Sulawesi province besides Makassar city.

However, Parepare is one of the winner of the clean city (Adipura) program for medium city category, since 2005 has been awarded 11 times until 2016. If compared with other cities in Indonesia, this can be said quite successful. So the description of the implementation of waste management policy in Parepare city becomes important as one reference for other regions.

Regarding those contrasting point of view, Parepare City's characteristics (demographic, and geographic aspect and city awards), This study frames research question "What are strategies to overcome obstacles in the implementation of waste management policy in Parepare City". This paper aims to analyze what are strategies to overcome obstacles in the implementation of waste management policy in Parepare City.

There are many existing literatures in addressing waste management in district level in Indonesia (See Dewintha, 2015; Said, 2015). For example, Dewintha (2015) adress the implementation of waste management policy in Sungai Pinang Dalam village is not yet optimal. That is because of the lack of participation both government and society in waste management. Other problems are the lack of budgets, lack of facilities and infrastructure, poor supervision, and poor public awareness in waste management. In another case, Said (2015) analyzes the implementation of waste management performance development program in terms of communication implemented by the Department of Sanitation has not run optimally in Bau-Bau City. He finds that in Bau-Bau City, the implementation of the program does not have standard operating procedure in running the program.

2. Theory

This study uses the main theory in addressing strategic to achieve goal in implementing program (See

Edward 1980). Edward (1980) promotes 4 (four) variables which link with the implementation of program, such as: Communication, Resources, Disposition, and Bureaucratic Structures. To achieve goal in implementing policy, Edward (1980) shows the significance of those 4 variables in implementing policy. In some extent, Implementation policy needs the existence of clear communication both between individuals and institutions concerned, the fulfilment of resources needed, the characteristic of good implementers and commitment, as well as dynamic bureaucratic structure that refers to predefined institutional standards.

3. Method

To examine the strategic of Pare-pare city in implementing municipal waste management, this paper uses descriptive research with a qualitative approach. Descriptive research is defined as a problem-solving procedure that is investigated by describing the state of the research object at this time based on the apparent or as it is. The purpose of descriptive research is to find the symptom in the field (fact finding) and find the relationship between the symptoms to be followed up with the analysis and interpretation of the symptoms data (Nazir, 2011: 63). According to Nazir (2011:63), a descriptive method is a method in examining the status of a group of people, an object, a set of conditions, a system of thought or a class of events in the present. The purpose of this descriptive study is to make a systematic, factual and accurate description of the facts, traits, and relationships among the phenomena investigated.

There are several reasons to use qualitative descriptive methods. One of them is that this method has been widely used and can cover more aspects than other methods of inquiry. This method contributes a great deal to science through the provision of state-of-the-art information and can assist us in identifying factors useful for experimental execution. Furthermore, this method can be used to produce a situation that may exist in certain situations. Another reason why this method is widely used is that the data collected is considered very useful in helping us to solve ourselves, or can solve the problems that arise in everyday life. Descriptive methods also help us know how to achieve the desired goals, and descriptive research is more widely used in the field of investigation with the reasons it can be applied to various problems. Considering the identification of the problem, the object of research and the data source, then the descriptive research with a qualitative approach is considered the most appropriate to answer the problem formulation of this research. So the results to be

achieved can be in accordance with research objectives.

This research uses two main data, primary and secondary data. Primary data comes from data collected by researcher directly from the source and key informants. Key informants who are strictly selected and can be trusted. Data comes from 5 (five) key informants from the Pare-Pare Municipal Department of Environment. This data also includes interview scripts, field notes, videotapes, personal documents, notes or memos and other official documents. The data can be obtained through sources related to the object of research including observation and in-depth interviews. Data sources that become observation objects are activities and conditions and phenomena that occur in the field. While the source of data that is the object of the interview is the informant who directly involved in the implementation of waste management policy in the city of Parepare. Informants are people who are believed to be able to provide an appropriate source of data in uncovering a research phenomenon. Selection of informants is based on subjects who have a lot of information related to the problems studied and willing to provide information. The key informant consisted of:

- a) Head of Environmental Department of Parepare City.
- b) Head of Hygiene Field of Environmental Department of Parepare city.
- c) Head of Hygiene Section of Environmental Department of Parepare city.
- d) Head of Waste Management Section of Environmental Department of Parepare city.
- e) Head of of Facilities and Infrastructure Section of Environmental Department of Parepare city

Secondary data comes from reported by others outside the researcher. This data are generated in the form of descriptive data obtained from various sources such as: writings, words and documents. The data comes from information in the form of documentation such as documents, regulation, archives, records, and official reports relating to research. This secondary data are obtained from varied relevant agencies such as Environmental Department of Parepare City, Regional Development Planning Agency of Parepare city and Central Bureau of Statistic of Parepare city.

4. Result

This research results some significant point of view, such follows: (1) Pare-Pare City points municipal waste in top city priority and in implementation, the city need the good participations and supports from Pare-Pare citizens, (2) Pare-Pare City has integrative strategic in the 5 city planning, includes establishing

good collaboration with Pare-Pare Municipal relevant agencies, and raising public awareness.

In accordance with the explanation, it can be said that the problem of garbage in the city of Parepare is an important issue that is quite a concern for local governments, especially for the Environment Department of Parepare city. Problems will arise and become important when the implementation of the policy is not accompanied by the behavior of a society that obeys the rules. Pare-Pare governance suffers many difficulties in overcoming the problem of increasing daily waste without the support of the Pare-Pare citizens.

In the implementation of the waste management policy, the Environmental Department of Parepare city proposed several strategic efforts in order to realize the clean city of Parepare so as to maintain the title as one of Adipura city. The strategic effort is contained in the environmental strategic plan within 5 years, which is then translated into program and activity plans every year. These programs and activities are the benchmarks for the Environment Department in the implementation of waste management policy.

Another strategic effort is establishing the collaboration with relevant agencies of Pare-Pare City in implementing the Regional Regulation of Parepare City No. 11 of 2012 in managing municipal waste management. For instance, The relevant agencies includes Public Works, Fire Department, Legal Department, Spatial Planning and assisted by Sub-district officials and village officials throughout the region. In local regulations, there are obligations and rights for both government and the private sector. This obligation should be undertaken by local governments in cooperation with the private sector.

Pare-Pare government also realize the importance of raising public awareness in managing municipal waste. Increase public awareness in waste management. The local government in this case Environmental Office of Parepare has tried to increase community participation and awareness in waste management. These efforts are contained in the organizational work plans that are translated into annual budget documents. These activities are socialization or training to the community about waste management. This activity aims to increase knowledge as well as public awareness in waste management. In the strategic plan of Parepare City Environment Office 2013-2018, socialization activities become work plan every year. But in fact, the activity does not get a budget allocation every year for reasons of limited budget. Since 2013, Socialization get budget allocation in 2015, 2016, and 2017 (Table 1).

Table 1 shows the commitment of Pare-Pare City in gaining the citizen participation in combating

municipal waste by increasing number of budget allocation for socialization program as well as outnumbering the participants in the period of 2013 to 2017, ranges respectively 20 Million IDR to 30 Million IDR, and target 80 people to 100 people. With the implementation of the training or socialization, local governments expect public awareness to participate in waste management including maintaining cleanliness of the environment.

Table 1 Socialization Program

No.	Year	Budget	Participants
1	2015	Rp. 23.000.000,-	80 people
2	2016	Rp. 25.000.000,-	100 people
3	2017	Rp. 35.000.000,-	88 people
Total		Rp. 83.000.000,-	268 People

Source: Environment Office of Parepare

In another case, From the various information collected as the result of the above interviews, it shows that the communication factor plays an important role in the effort to implement waste management policies in the city of Parepare. Communication is quite well accompanied by the delivery of clear information, a positive value in the implementation of waste management policies in the city of Parepare. Clarity of information received by the implementors in the field to be important capital in order to succeed the waste management program in accordance with the policy direction.

Apparatus at the Environment Department of Parepare city has implemented good communication in the implementation of waste management policy in Parepare. It is evidenced by the implementation of activities in accordance with the policy direction. The policy directions in question are the goals and objectives of the policy as well as the direct orders from the head of the organization. So it can be concluded that the communication factor into an indicator that supports the implementation of waste management policies in Parepare city.

Pare-Pare City also promotes high technology in managing municipal waste. The Environment Department implemented a waste management program in the landfill as an effort to reduce waste volume. This activity is in the form of organic and inorganic waste processing so it can be reused. The use of technology in the form of waste processing machine becomes the main element in the implementation of this activity. In accordance with good waste management rules, namely the implementation of the 3R system, then this activity is considered important. For the implementation of this activity, the Environment Department of Parepare City has included this activity in the annual work plan with the name of

the activity is the management of composting and improvement of the operation of waste facilities and infrastructure.

One of the important things is also disposition. Dispositions or attitudes of policy implementers become factors that can affect the process and outcomes of the implementation of the policy. The effectiveness of a policy is measured by the attitude of the personnel involved in policy implementation, including on waste management. All implementers should have a great responsibility and dedication to a given or established policy.

In terms of implementation of waste management policies in the city of Parepare, most implementers or implementers have demonstrated a high level of attitude and commitment in the effort to succeed the implementation of activities. But on the other hand, there are still some personnel who do not show seriousness in implementing the policies or orders of superiors, such as: lack of discipline of field workers.

Based on Edward III theory which becomes the reference in this research, there are 4 variables that influence the implementation of the policy of waste management in Parepare city, that is; communication, resources, disposition, and bureaucratic structure.

These findings relate to the existing theories that communication, disposition, and bureaucratic structure significantly support the strategic in implementing the policy. In this case, Edward III's theory works with the lesson learned of how Pare-Pare city manage its municipal waste. In Pare-Pare City, these four indicators of Edward III are interrelated and should complement each other to create effective policy implementation.

5. Discussion and Conclusion

Based on Parepare city regulations on waste management, there are 3 main tasks that are the obligations of local governments in general waste management process, namely: 1) increasing public awareness in waste management, 2). Use of technology in waste reduction and handling, and 3). Provision of waste infrastructure and facilities. Based on the findings in the field that Environment Department has strived to conduct activities and programs that support the policies that have been established.

In terms of increasing public awareness, Environmental Department annually socializes to the community as a first step in information dissemination. With the socialization, the expected result is the increased understanding and awareness of the

community in environmental management, especially in the handling of waste. To support the socialization activities, Environment Department strives to allocate budget every year.

Meanwhile, in terms of the use of technology in waste reduction and handling, Environment Department has conducted organic and inorganic waste processing activities since 2008. Aside from being one of the obligations set forth in the policy, this activity is also an effort to support the implementation of Adipura and Adiwiyata programs. To support the implementation process of activities, Environment Department always allocates budget in the work plan every year, even though in 2015 it was rejected by DPRD.

All in all, This result shows that communication, disposition, and bureaucratic structure significantly support the strategic in implementing the policy in municipal waste management of Parepare City.

References

- World Bank. (2012) "What a waste: A Global Review of Solid Waste Management. 2012
- Ngoc, Uyen Nguyen, and Hans Schnitzer. (2009) "Sustainable solutions for solid waste management in Southeast Asian countries." *Waste management* 29, no. 6: 1982-1995.
- Nazir, Moh. (2011) *Metode Penelitian Sixth Printed*. Bogor: Penerbit Ghalia Indonesia.
- Edward III, G.C (1980). *Implementing Public Policy*. Congressional Quarter Press. Washington DC. 1980
- Central Bureau of Statistics. (2016) *Parepare City in Number 2016*
- Dewintha, Audya. (2015) *Implementasi Kebijakan Pengelolaan Sampah di Kelurahan Sungai Pinang dalam Kecamatan Sungai Pinang pada UPT Dinas Kebersihan Kota Samarinda*. E-Jornal. Samarinda: Mulawarman University.
- Said, La Ode Agus, and Irwan Noor. (2015) "Implementasi Kebijakan Pengelolaan Persampahan Kota Baubau." *Jurnal Ilmu Sosial dan Ilmu Politik Universitas Tribhuwana Tungadewi* 4, no. 1.