

IMPLEMENTATION OF MUNICIPAL SOLID WASTE MANAGEMENT IN INDONESIA

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Abstract

Purpose of the study: The aim of this study is to implement the Municipal Solid Waste Management (MSWM) to help the Regional Cleaning Company (in this case in Bandung City, Indonesia) in managing waste and maintain the cleanliness of urban cities in Indonesia like Bandung City.

Methodology: Methodology used in this study is a qualitative method and Focus Group Interviewing to collect the data for the qualitative method.

Main Findings: This study finds that from three types of waste management such as centralization, decentralization, and decentralization-centralization, the most appropriate waste management in Bandung is decentralization-centralization because most people in Bandung do not have a place for processing waste. Municipal Solid Waste Management (MSWM) implemented in Bandung still has not optimal yet because the infrastructure and human resources are limited. Another factor is that public awareness of waste is still low among the society.

Applications of this study: This study is the application of environmental studies on which results can form the basis of public policy.

Novelty/Originality of this study: Bandung as one of the big and modern cities in Indonesia can become a benchmark, if even big cities are not optimal in managing sprouts, what about smaller cities in Indonesia. Therefore, the Indonesian government needs to be aware and optimize MSWM to improve the lives of its people in terms of cleanliness, beauty, and health.

Keywords: *Implementation, MSWM, Policy, Regional Cleaning Company, Waste Management.*

INTRODUCTION

A city is the centre of economic activity with high productivity, and its more complete infrastructure has become one of the attractions for the sub-urban and residents of other cities to find employment in the hope of achieving a better standard of living. This encourages urbanization and creates an urban city. There are many economic advantages with the growth and development of cities due to increased economic activity, but the benefits will be compensated for by the rising social costs. Under such conditions, it can reach the scale of diseconomies as social costs become more expensive.

The rising social cost of any economic activity in urban life has caused a deterioration in the city's environmental quality, such as traffic congestion, air pollution, noise, solid and grimy environment due to waste. One source that can cause diseconomies in a city is the cost to handle the cleanliness, which starts the process of collecting, transporting to waste disposal in the final processing place (*Tempat Pembuangan Akhir/ TPA*).

Increasing urban population - including urbanization - has resulted in increased municipal waste production. Urbanization is closely related to waste in different parts of the world: "Increasing urbanization presents even greater S.W. and sanitation yolk on the continent" (Yeboah-Assiamah, Asamoah, & Kyeremeh, 2017, p. 79). Assiamah further explained that: "The amount of waste produced, even in developing countries, is often a function of culture and affluence" (Yeboah-Assiamah et al., 2017, p. 80). "Quantities contents of wastes also differ according to the living standard and degree of urbanization" (Elsaid & Aghezzaf, 2015). Therefore, waste handling efforts require an increase, as well. There is often an imbalance between infrastructure and waste volume.

The volume of waste in Bandung City is 1.500 - 1.600 tons/day. While on the weekend there is an increase in the volume of waste around 20 %. This increase is caused by the visit of domestic tourists who visit Bandung City. It consists of 57 percent organic and 43 percent non-organic solid wastes, which is difficult to recycle.

A city is the centre of economic activity with high productivity and its more complete infrastructure has become one of the attractions for the sub-urban and residents of other cities to find employment in the hope of achieving a better standard of living. This encourages urbanization and creates an urban city. The increasing urban population has resulted in increased municipal waste production. The volume of municipal solid waste in Bandung City is 1.500 tons /day (<http://www.pikiran-rakyat.com/foto/2017/10/10/dalam-sehari-total;-sampah-di-kota-Bandung-sekitar-1500-ton-411223>). While on the weekend, there is an increase in the volume of waste around 20 %. It consists of 57 percent organic and 43 percent non-organic solid wastes which are difficult to recycle. In the face of increasing waste, the Bandung City Government implements Municipal Solid Waste Management (MSWM).

Basically, the city government is obliged to seek the optimum solid waste management (hereinafter SWM). On the other hand, city residents are obliged to pay the waste handling fee as a consequence of the services it obtains. The rules governing urban duty obligations for urban cleanliness are laid out in the local regulations (*Perda*), as well as with the services provided by the municipal government for municipal waste management efforts. This is an inseparable part of urban environmental management efforts to achieve clean, beautiful, and comfortable city goals.

Since 2017, regional company *Perusahaan Daerah Kebersihan*/Regional Cleaning Company (PDK) has switched to implementing the policy on waste. Previously PDK was a regional company that was given subsidies by the Bandung City government. Due to PDK's infrastructure and human resources are limited, PDK works with private companies such as P.T. Kasih Guna Mulia (KGM) to do cleanliness in several locations in Bandung City. The PDK service operational area covers the entire area of Bandung City covering an area of 16,729 Ha. During this time, PDK can serve $\pm 90\%$ of the area of Bandung City (Bandung PDK Performance Report in 2016).

During this time has been made various efforts to create a clean city environment, beautiful and comfortable by the government of Bandung City. These efforts include the improvement of national legislation and its dissemination into the regional level, urban spatial arrangement, improvement and development of facilities /infrastructure, and institutional arrangement. At the increasingly critical level of society and its role, it is necessary to reform of the civil state apparatus (*Aparatur Sipil Negara*) through the development of participative management style, accommodating and increasing community participation. However, community participation is an important factor because most of the waste is the product of human production, such as household garbage.

Bandung is faced with hygiene management issues, namely increasing revenues and increasing community participation (PSM) in SWM (Solid Waste Management) and public awareness of the obligation to pay for cleaning services. Bandung City with a relatively small area but populated quite dense. According to the Central Bureau of Statistics (BPS) in 2017 the population of Bandung City amounts to 2.5 million. The amount does not include temporary residents, migrants from other cities such as students and merchants, workers from outside the city which is quite a lot. Every individual in the city of Bandung produces waste every day because an individual is a waste producer. It is estimated that each family produces about 2-5 kg of waste/day or 800-1000 g / day/capita with a composition of about 60% -75% is organic waste. There are many factors that lead to an increase in the volume of waste, including the following factors: "Increase in population and living standards accelerates the waste generation in a developing country. The generation of wastes is also affected by the family size, educational level, household habits, and financial income" ([Elsaid & Aghezzaf, 2015](#)).

Therefore, the focus of the problem is not the waste but what to do with the waste. In fact, the current condition shows that the pattern of handling of hygiene management conducted in the city of Bandung is not in accordance with the rules of the environment. In general, waste collected only from various places (households, markets, industries, etc.) and then stacked on a site known as Temporary Disposal Site (*Tempat Pembuangan Sementara*) without proper management namely by way of open dumping. In this way, it can cause various problems such as environment, social, and health.

If hygiene management is not professionally managed, it can result in wastes of garbage everywhere. So it can interfere with the daily activities of the community. Basically, the problem of waste is not a local problem, but it has become a national problem. For example, garbage problems arose in May 2006 as a result of the *Leuwigajah* landfill was closed due to landslides. This incident caused the Bandung City as "sea of waste". The landslide has killed 100 people and caused great management in waste management in Bandung City, Bandung Regency, and Cimahi City. Almost all of the waste from the three areas is dumped into the *Leuwigajah landfill*, but the largest volume of garbage is the city of Bandung.

The SWM policy in Bandung City can not be separated from efforts to build a quality living environment. The main problem Bandung City does not have a landfill to accommodate garbage whose volume continues to increase. Currently, *TPA Sarimukti*, Bandung Regency, is still temporary. Another problem is the capacity of the Sarimukti TPA can only accommodate around 1,100 tons / day.

Open dumping management techniques can cause adverse impacts on people's lives, especially for public health around landfill sites. There are various impacts of the above techniques, namely air pollution, water pollution, aesthetics, or other social problems. Another factor is the perspective and lifestyle of people in the waste disposal. The subject of this study focuses on the activities of aspects related to the implementation of hygiene management policies with community satisfaction.

Therefore, this study tries to implement the MSWM to improve waste management better and wisely. The results of the implementation can be the basis for policymakers to improve public policies related to environmental maintenance, especially waste management.

LITERATURE REVIEW

A. Municipal Solid Waste Management (MSWM)

Generally solid waste is a problem in many cities in developing countries, including in Bandung City. Yeboah-Assiamah explains: "The phenomenon of Municipal Solid Waste Management (MSWM) has become a major developmental challenge to most cities in developing countries. This is more problematic in developing countries as a result of the rapid increase in solid waste (S.W.) generation caused by rapid population growth, unregulated urbanization, presence or manufacturing activities, and economic development." (Yeboah, 2015:p.78); the MSWM system consists of only four activities, namely generation, collection, transportation, and disposal of garbage." (Sharma et al., 2013: p.155); Municipal solid waste (MSW) can be interpreted variously in every country and institution, but MSW in this study specific to solid waste that produced from residents, office, market, and institution such as school, hospital and so on (Ak and Braida, 1997: 909); "It is generally recognized that a modern MSWM system should include four fundamental options (recycling, biological treatment, thermal treatment, and landfilling); all are necessary but alone not sufficient to guarantee an efficient and sustainable management" (Sefouhi et al., 2014: 502); "A solid waste management (SWM) system includes the generation of waste, storage, collection, transportation, treatment, processing, recycling and final disposal of garbage, sewage and other waste products" (Elsaid and Aghezzaf, 2015: 1086); "The state of the economy influences waste generation, i.e. greater economic prosperity and larger urban populations result in a larger amount of solid waste generation; a common feature in developing countries. The collection, transport, and disposal of solid waste are important aspects of waste management for public health, aesthetic, and environmental reasons" (Sefouhi et al., 2014: 493); "The problem of MSWM is more in many undeveloped African countries due to lack of awareness, education, resources, technology and finance which resulted into open dumping, low collection and incineration of wastes. In Ethiopia, municipality of respective cities and towns are responsible for MSW, but inadequate management resulted in dumping, scattering and accumulation of wastes across the roadsides, market places, river/stream banks, empty plots" (Sharma et al.:2013,p.155); "A solid waste management (SWM) system includes the generation of waste, storage, collection, transportation, treatment, processing, recycling and final disposal of garbage, sewage and other waste products" (Elsaid and Aghezzaf, 2015:p.1086); "Municipal solid wastes (MSW) are unwanted materials or wastes primarily generated from households and municipal services" (Laor, 2018:123); "The waste management process is mostly defined by waste management hierarchy." (Singh and Sushil, 2017:786); In Malaysia as one of developing countries, the solid waste management sector is still low respect, with the low environment, especially in urban areas (Ayob et al, 2016; Ayob, et al.,2017:696).

B. Implementation

M.S Grindle (1980) noted that the success of policy implementation depends on the content of the policy and its implementation context, which are entitled as the degree of implement-ability (Nugroho, 2003:188); Different kind of policy needs a different mode of implementation. Policy implementation is the most critical issue for the developing countries (Nugroho, 2003:196); Purwanto and Sulistyastuti stated that the core implementation is the activity to deliver policy outputs carried out by the implementers to the target group (Purwanto et al, 2007: 21); Implementation is a very complex activity, involving many actors with their various interests (Purwanto et al, 2007:12); Policy implementation is a crucial matter in public policy studies. According to Edward III (1980) that policy implementation is the stage of policymaking between the establishment of a policy (Edward III, 1983); Pressman and Wildavsky stated that policy implementation is the complexity of joint actions (Edward III, 1983); According to Implementation failure can be caused by the following factors: "1) target beneficiary is not involved in program implementation, (2) such implemented programs does not consider environmental, social, economic, and politic conditions, (3) the existence of corruption, (4) low capacity human resources, and (5) absence of coordination and monitoring" (Purwanto, 2007: 85); Indiahono pointed that the advantages and disadvantages of social and economics must be considered in detail as the logic of public policy (Indiahono, 2018). "Basically, formulate public policy is not only the executive but also the legislative, judicial and administration" (Edward III, 1983); Mazmanian and Sabatier defined public policy implementation is the carrying out of a basic policy decision which can take from court decisions (Hill and Hupe, 2002: 7); Van Meter and Van Horn argue that it is vital that the study of implementation be conducted longitudinally; relationships identified at the point in time must not be extended causally to other time periods. The model called a 'top-down' approach (Hill and Hupe, 2002: 46); For Pressman and Wildavsky, implementation is clearly defined in terms of a relationship to the policy as laid down in official documents." (Hill and Hupe, 2002: 44).

C. Public Policy

Anderson, for instance, gives the following definition of policy: "A purposive course of action followed by an actor or set of actors in dealing with a problem or matter of concern. Public policies are those policies developed by governmental bodies and officials" (Hill and Hupe, 2002: 5); Definition of public policy: "...the public policy stressed under here concerns with problems, necessity, and aspiration of community that must be served. The frequently important issue coming into the surface is that has a public policy already well respond aspiration, necessity, and problems are being faced by a community".

D. Public Service

Public service is a business transaction between service provider as a donor and customer as a receiver, where the goal of public service is customer satisfaction (Yeboah-Akinboade et al., 2012: 185); Whereas characteristics of services as follows: some authors believe that service is intangible. Public service cannot be touched, stored, seen, or held. Zeithaml et al. believe that services are placed on a continuum of intangibility (Yeboah-Akinboade et al., 2012: 185). In many cases, the lack of implementation and absorptive capacity of government agencies and citizens, respectively, are problems that hamper efficient service delivery (Yeboah-Akinboade et al., 2012: 188). The public services are, from systems theory and open system model point of view, the outputs of public administration and of the policy process (Virtanen and Stenvall, 2014: 94).

E. Customer Satisfaction and Service Quality

The manner in which the attributes are perceived and the standard of reference against which the attribute is measured is a key to assess satisfaction with a particular environment (Potter and Cantarero, 2014:p.22); It also shows customer satisfaction is being used as a key tool for understanding customer needs, behaviour, and motivations and as a basis for improving customer experience from Queensland Council of Social Service; One of the key considerations in the customer satisfaction literature is identifying aspects of a service which are most important in determining a customer's overall satisfaction. Because customer satisfaction is defined by the questions used in the survey, it is important to ensure that these reflect what customers think is most important. If not, it is likely the data will not give an accurate indication of satisfaction. The identification of the key drivers or determinants of customer satisfaction enables organizations to focus on what is most important when assessing customer satisfaction from the perspective of the customer.

The satisfaction is an 'overall customer attitude towards a service provider' (Bellou, 2007: 510); There are a number of different 'definition' as to what is meant by service quality. The public sector in the organization is operated to realize that the organization must ensure their service are soundly based on the needs and expectations of their stakeholders – community, citizens, and customer – and that they are seen as providing service quality (Wisniewski, 2001: 380); The public sector should measure the customer expectations of service as well as perceptions of service for ensuring the quality of public service (Wisniewski, 2001: 381); SERVQUAL model that developed can be adapted to any service organization (Wisniewski, 2001: 381-382); the customer satisfaction is an abstract and rather ambiguous concept." (Munteanu et al., 2010:p. 125).

METHODOLOGY

The selection of appropriate research methods is very important in all studies, including public policy research. The definition of research design is denoted both a process and a product aimed at facilitating the construction of sound arguments. This study used qualitative methods because it is adapted to the topic of research and the object of research. Qualitative method can be used to understand the meaning of humans such as concepts, symbols, descriptions, and so on, then qualitative research design is a flexible and emergent nature method.

The research method used in this research is descriptive analysis. Descriptive analysis is a method that describes an ongoing state at the time of the study, and how it affects. The data set was analyzed and compared to the existing theory and the problems that existed to draw conclusions. Research design is explaining various variables to be studied, then make the relationship between one variable with other variables, so it will be easy to formulate research problems, theory selection, hypothesis formulation, research methods, research instruments, Expected conclusion".

In addition, the objective of qualitative methods is not to prove hypotheses (McLeod, 2012), but to analyse and interpret the social world constructive aspects (Tavallaei and Talib, 2010). Researches that use qualitative methods are concerned with a process, rather than outcomes or products. Qualitative methods are used to find how people make sense of their lives, experiences, and structures of the world. Where the qualitative researcher is the primary instrument for data collection and analysis, qualitative research involves fieldwork (Atieno, 2009).

According to Yin (2011), qualitative research can be used to examine topics such as social, contextual conditions, environmental conditions, and institutional (Yin, 2011: 8). Sharon pointed out that qualitative research is an inductive process that conducts the concepts, hypotheses, or theories rather than proving the hypotheses. One of the uses of the research method describes the process (not the results or products) of making meaning (Sharon, 2009); Tracy defined that qualitative research focuses on the emergence of a situation (Tracy, 2013).

This study uses a type of descriptive case study described by Yin as follows: "exploratory (as pilots to other studies or research questions); descriptive (providing narrative accounts); explanatory (testing theories)" (Cohen et al., 2007: 254-255). Cohen et al. stated that the characteristics of case studies were: "In-depth, detailed data from wide data source" (Cohen, 2007: 85).

Primary data collection was carried out by Focus Group Interviewing (FGI), which is a model for collecting qualitative data. Yin (2011) states that data collection techniques from various qualitative methods do not only rely on sources. He

explained that most qualitative research is an inductive approach (Yin, 2011). Secondary data is obtained from reports, literature, previous research, and the like.

DISCUSSION / ANALYSIS

A. Types of Solid Waste Management in the City of Bandung: Decentralized Centralization

Bandung is the capital city of West Java Province. The city relatively small area but populated quite densely. According to the Central Bureau of Statistics (*Badan Pusat Statistik/BPS*) in 2017, the population of Bandung City amountsto2.5 million. The amount does not include temporary residents, migrants from other cities such as students and merchants, workers from outside the city which is quite a lot. Every individual in the city of Bandung produces waste every day because an individual is a waste producer. It is estimated that each family produces about 2-5 kg of waste/ day or 800-1000 g/day/capita with a composition of about 60% -75% is an organic waste. There are many factors that lead to an increase in the volume of waste, such as Increase in population and a living standard accelerates the waste generation in a developing country. The generation of wastes is also affected by family size, educational level, household habits, and financial income" (Elsaid and Aghezzaf, 2015: 1094).

So far, most of the people dispose of garbage by mixing, between wet household waste and dry waste. This method of disposal can make it difficult for garbage workers and the 3R process. There are many factors that cause difficulties in waste management in the city of Bandung, namely: 1) the community does not realize the importance of sorting household waste; 2) facilities for organic and non-organic containers are not owned by the community, especially the lower class. The Bandung City Government provides plastic trash bins for organic and organic waste with yellow and green colour differences. However, these facilities are generally provided in the city centre such as public spaces, but the numbers are minimal. However, the need for these facilities is very large, especially in residential areas as the main source of household garbage.

There are three types of waste management in the City of Bandung, namely: 1) centralization; 2) decentralization and 3) decentralization-centralization. So far, the most appropriate type of waste management in Bandung is decentralization-centralization. The reason is that most people in the city of Bandung do not have a place for processing waste.

B. Regional Cleaning Company (PDK) as Executor of Waste Policy in Bandung City

In 2017 the authority of waste management is in the Environment and Hygiene Department (*DinasLingkunganHidupdanKebersihan/DLHK*). This change in authority refers to Regional Government Regulations Number 8 of 2016 concerning the Establishment and Composition of the Bandung City Regional Apparatus and Regional Regulation Number 9 of 2011 concerning Waste Management and Regional Regulation Number 14 of 2011 concerning the Hygiene Region of Bandung City. With this new regulation, there has been a fundamental change in the waste management system that is considered more focused and professional. Since 2017 the role of PDK is a professional partner of the Bandung City Government who is given the task of managing waste. With the new policy, the role of PDK is public service and profit-oriented. Previously, the Bandung City Government gave a subsidy to PDK as one of the regional companies in the City of Bandung in charge of transporting and processing waste.

PDK has 160 Temporary Disposal Sites (*TempatPenampunganSementara/TPS*), among which 10 TPS can process Reduce, Reuse, Recycle (3R). It also has 1 Integrated Temporary Disposal Site (*TempatPenampunganSementaraTerpadu*, abbreviated/TPST) at Babakan Sari, Kiaracondong Sub-district, which can process 3R and biodigester that can process organic household solid waste into gas. Production capacity is still small, which is 300 kilograms/day. PDK has operational vehicle facilities 105 trucks, 12 pickup trucks, 50 tricycles, and 203 containers. The total number of employees is 1,679 people, including 648 street sweepers, outsourced road sweepers 95 people and transport officials 219 people. However, infrastructure is still minimal when compared with increasing the volume of solid waste. In addition, since 2014, MSWM in the City of Bandung involves the private sector, P.T. Kasih GunaMulia (KGM) which is in charge of cleaning and sweeping some main roads and tourist areas. The KGM work area consists of 26 road lines and 3 areas. A KGM's sweeper can sweep rubbish on average 31.07 kg/day. The number of KGM's sweepers is 81 people who collect sweep of 70,859 trash bags (1 trash bag = 40 liters of garbage).

C. Community Empowerment on Garbage Disposal Model

One example of a partnership program with the community is a waste pilot project in BatuNunggal District. The pilot project is collaborating with a city in Japan. The transportation of garbage in the BatuNunggal Subdistrict starts from the residents' houses, adjusted to the theme, namely organic and non-organic waste. Garbage collection uses the schedule so as not to mix organic waste with non-organic. If the garbage does not match the theme, the janitor will not transport it. The selection of the waste pilot project in the BatuNunggal District is based on the consideration that most people are middle to the upper class. They realize the need to make the waste selection to facilitate the 3R process. Whereas most of the community, especially the lower classes of people who live in slums or urbanization communities who live in densely populated villages, have not yet realized the need to separate these types of waste. In general, they combine all kinds of garbage in the trash or put it in plastic.

Generally, waste collected only from various places (households, markets, industries, etc.) and then stacked on a site known as Temporary Disposal Site (TPS) without proper management namely by way of open dumping. Currently, TPA Sarimukti, Bandung Regency, could not accommodate garbage whose volume continues to increase. Another problem is the capacity of the TPA Sarimukti can only accommodate around 1,100tons/day. In this way, it can cause various problems such as environment, social, and health. Open dumping management techniques can cause adverse impacts on people's lives, especially for public health around landfill sites. There are various impacts of the above techniques, namely air pollution, water pollution, aesthetics or other social problems. Another factor is the perspective and lifestyle of people in waste disposal. The subject of this study focuses on the activities of aspects related to the implementation of hygiene management policies with community satisfaction.

Currently, the location of TPA Sarimukti, Bandung Regency, is a temporary landfill. Actually, open dumping management techniques can cause adverse impacts on people's lives, especially for public health around the landfill site. There are various other impacts of the above techniques, namely air pollution, water pollution, and social problems. Another factor is the perspective and lifestyle of people in waste disposal. Most people do not realize the need to dispose of waste properly and in place.

Basically, waste management policy in the city of Bandung cannot be separated from efforts to build a quality living environment. But the problem Bandung does not have a landfill to accommodate garbage. At the same time, the volume of garbage continues to increase. Currently, the location of TPA Sarimukti, Cipatat, Kabupaten Bandung, is temporary. Actually, open dumping management techniques can cause adverse impacts on people's lives, especially for public health around the landfill site. There are various other impacts of the above techniques, namely air pollution, water pollution and social problems. Another factor is the perspective and lifestyle of people in the waste disposal. Most people do not realize the need to dispose of waste properly and in place.

During this time has been made various efforts to create a clean city environment, beautiful and comfortable by the government of Bandung City. These efforts include the improvement of national legislation and its dissemination into the regional level, urban spatial arrangement, improvement and development of facilities /infrastructure, and institutional arrangement. At the increasingly critical level of society and its role, it is necessary to reform of the civil state apparatus (*Aparatur Sipil Negara*) through the development of participative management style, accommodating and increasing community participation. However, community participation is an important factor because most of the waste is the product of human production, such as household garbage.

CONCLUSION

Municipal Solid Waste Management (MSWM) implementation in Bandung City was carried out by Regional Cleaning Company (PDK) in collaboration with a private company, namely Kasih Guna Mulia (KGM) company as its partner. The main reason is that PDK is a regional company whose infrastructure and human resources are limited.

PDK's appointment as an effort of the Bandung City government in carrying out public services in the cleanliness or waste sector in Bandung City. So far, the volume of garbage in the City of Bandung continues to increase due to various factors, mainly as a result of an increase in population and urbanization. Bandung City is known as a creative city that has encouraged an increase in the number of local tourists and the economic activities of the citizens. The negative impact of the tourism industry is an increase in waste volume, especially on holidays or weekends. Another factor is that public awareness of waste is still low, especially among the lower-class society. In addition, the number of garbage disposal facilities is minimal, and the number of garbage collection officials is limited. There is a lot of garbage in every place in the city of Bandung.

Based on the results of the study described above, this study reveals that there is still a lack of infrastructure, human resources, and community awareness in waste management. Therefore, there is a need for government policies (policymakers) and related parties to jointly increase public awareness of waste management, along with the improvement of supporting infrastructure.

LIMITATION OF STUDY AND FURTHER SCOPE FOR THE STUDY

This study focuses on the Municipal Solid Waste Management (MSWM) in Bandung City as a benchmark, while the condition in each city must be different. So it is possible to do further and extensive research on several cities. Based on the finding of this that there is still a lack of infrastructure, human resources, and community awareness in waste management, so for further works, then for further works, it can be developed the policy model to enhance these problems.

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