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Government Policy Strategy in Waste Management on Trade and Reservation Center in Manado City

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Abstract. The strategy of urban development is very important to be defined in the policy. Some areas in Manado city at certain time are not clean from garbage. Wenang village which is the center of trade and services contributes the most waste even though the population is not too much. Sario Sub-district has a large population but produces little waste. It is necessary to learn how the waste management at the center of trade/services that densely populated so that hygiene can be overcome. The research methodology used is descriptive qualitative method. The data were collected by observation, direct interview with 3 informants for each Kelurahan(village) taken by purposive sampling. Data was analyzed descriptively. The results showed that the waste management system and its management, cleaners and garbage vehicles can not be optimized because the pile of waste is too much so that waste management must be different, that is by increasing the number of fleets from 1 vehicle to 2 or 3. Waste management on the road protocol is done by officers at 06.00am to 06.00pm. Garbage taken from the community is loaded into cart or waste motor taken to TPS. From TPS garbage was transported by garbage vehicle then taken to the landfill at 06.00pm s / d 06.00am. This research can be concluded that waste management in Central Trade Area/Service and Residential Area in Manado City is not as expected. It is advisable to add facilities and infrastructure of garbage transportation and cleaning service.

Keywords: Strategy, Trade and Services, Population, Garbage

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I. INTRODUCTION

Manado as the capital city of North Sulawesi province is located at the northern tip of the island of Sulawesi and overlooks the Bay of Manado. The characteristics of Manado city before 2017 were dominated by government and trade activities which were then changed by increasing activity in the more modern sectors of commerce, services and industries, such as the reclamation of beaches to be a central business district along Boulevard, new hotels are also emerging international events such as the World Ocean Conference (WOC), the Coral Triangle International (CTI) Summit, and Sail Bunaken, the ODSK program to support regional tourism by 2017 equipped with modern facilities. The functioning of Sam Ratulangi Airport as an International Airport and direct access to Bitung Ocean port as a free port increasingly makes the activity of Manado City increasing from time to time until 2017.

Urban hygiene issues or urban waste management are often the main issues in urban governance strategies (Anestina, 2014). Almost every time in the local mass media talking about public services including the ones highlighted is the issue of cleaning services or municipal waste. As a result of waste that has not been properly managed will cause pollution (water, air, and soil), reduce the level of public health and disrupt public activities of urban communities. The current environmental exploitation is a major issue that is closely related to the management of urban environments, hence the demands of development in all areas must fundamentally refer to environmentally sound development. In addition, in entering the era of globalization cities are required to be able to compete with cities in other countries in the world, both as an investment place and as a habitable city for its people (Soegijoko, 2011).

The problem is also experienced by the people of Manado City, so it is time for the improvement of urban hygiene service properly by making policy in city waste management more professional and re-involving all elements of society (Dardak, 2007). Even the process of waste management of the city can provide added value for waste managers (both city and community). Wenang sub-district which is one of 9 sub-districts in Manado city is the biggest waste producing place because it is a business center that exist in Manado City and its place of merchant street vendors (PKL).

Seen as a result of untreated waste causes unpleasant odors, disturbances to the beauty of the city, the emergence of various health problems/diseases in urban communities, disruption of urban community activities

(such as the result of waste piles that disrupt pedestrians and road users because of scattered waste up to the edge of the highway). In addition, other significant impacts are during the rainy season, garbage disposed or buried in waterways / rivers, causing clogging of channel/river water flow, resulting in flooding and puddles in some areas of the city.

II. RESEARCH METHODS

The research methodology used is descriptive qualitative method. The data were collected by observation, direct interview with each 3 informants for each kelurahan (village) taken by purposive sampling. Data was analyzed descriptively (Moleong, 2013).

III. RESEARCH RESULT AND CONCLUSION

A. Overview of Research Sites

1. Pinaesaan Village

Pinaesaan is an urban village located in the heart of Manado City Trade / Service Center with 43.6 ha area, led by Head of Village Edwin Matheos, with head of Family 562 and population 2.280 souls consisting of 1.129 men and 1.151 women.

2. Calaca Village

Calaca is an urban village located in the heart of Manado City Trade and Service Center with Pangestu Regency with 16 ha area, with 358 head of household and 1.331 people, consisting of 651 men and 680 women. The village of Calaca is headed by Chief Executive Tommy Tendean.

3. Sario Sub-district

Sario is one of the densely populated urban villages in Manado City with an area of 22.2 ha, led by the Head of Meylin Lasut Urban Village, with 640 Heads of Families and a total population of 2.347 people. Sario Urban Area is divided into 4 areas.

4. Sario Kota Baru Village

Sario Kota Baru is one of densely populated urban villages in Manado City with a total area of 24.3 ha, led by Head of village named Pusparani Lumentut, with 823 household heads and a population of 2.914 people, 1.497 men and 1.378 women. Sario Kota Baru Urban Area is divided into 5 areas.

B. Description of the Informant

The number of informants in this study amounted to 12 people to ensure confidence in the feasibility of data obtained from informants. It needs to know the characteristics of respondents who became informants of this study in several classifications such as characteristics based on the level of formal education, age and type of work occupied. The informants were drawn from 4 urban villages of 3 people each, consisting of urban village and janitor.

C. Interview Result

1. Elements of Regional trade/service communities

1) According to informant FER, 50 years old, the representative of Calaca Village community, level of education was Vocational High School. Calaca Sub-District is a regional Trade Center/ Service Center which has many Shops, Hotels, State-Owned Enterprises, such as Banking, and "Bersehati Market", and other trading business. Total waste production everyday is 36 m3 and does not use countainers/temporary disposal sites, according to him that because there is no land to be placed, while the sweeper is taken from society in Calaca Village with 3 garbage collectors. The garbage disposal from the community according to Manado Regional Regulation No. 7 of 2008, which is at 6pm-6am. But public awareness of waste disposal is still alarming.

2) According to informants RL, 38 years old, the representative of Pinaesaan community, level of education was S.1.(Bachelor degree). Pinaesaan Urban Village is a Trade Center / Service area which has many trading business, such as 485 Shops, Bank / BUMN as many as 10 branches/regions, hotels as much as 12, and other trading business. Total waste production every day is 72 m3 and there are 4 Temporary Disposal Sites spread in Trade Plaza area of President Plaza, Sutomo Street, Sudirman Street 6, and Sudirman Seruni Street with 3 garbage collectors. The garbage disposal from the community according to Manado Regional Regulation No. 7 of 2008, which is at 6pm-6am. But public awareness of waste disposal is still alarming.

2. Community of Densely Populated Settlements

1) According to JAP, 30 years old, the representative of Sario Village community, level of education S.1(Bachelor degree). Sario Urban Area is a densely populated residential area with 7 m3 of daily waste production, where there are 2 temporary disposal sites with size 3 x 1 meter and 2 x 1 meter, located at Lansat Street, area IV and Bethesda Street, area I, with 3 garbage collectors. The garbage disposal from the community according to Manado Regional Regulation No. 7 of 2008, which is at 6pm-6am. But public awareness of waste disposal is still alarming.

2) According to informants MJR, 44 years old, the representative of community Sario Kota Baru Urban Village, education D.3 (Diploma). The Sario Kota Baru urban village is a densely populated residential area that has a daily waste of 8 m3, where there are 2 temporary disposal sites (TPS) with size 3 x 1.5 meters with 3 garbage collectors. The garbage disposal from the community according to Manado Regional Regulation No. 7 of 2008 is at 6pm-6am. But public awareness of waste disposal is still alarming.

3. Waste Transport Officer in Sub-District of Commerce / Services Area

1) According to informant Abdul aged 52 and Azis aged 54, each as the cleaning service of Calaca Village, level of education was elementary. Garbage cleaning is carried out every day between 06:00 pm - 06:00 am hours, ie, garbage scattered in the streets of the protocol are collected and put into the garbage container, that is to the temporary dump site, but so far the garbage collected is mostly on the street protocol , so as a janitor sometimes overwhelmed in collecting the garbage. Furthermore, garbage collected at the temporary dump site and from the homes of residents transported by garbage vehicles duty from 06:00 pm - 06:00 am to Final Disposal. For garbage in Bersehati market is handled by the market cleaners of the market that will be picked up by garbage trash. But from the experience that happens everyday that the garbage transported to the landfill can not be transported all of them, resulting in the buildup of garbage in the temporary dump site.

2) According to informants Abdul aged 52 and Azis aged 54, each as the Garbage collector of Calaca village, level of education is elementary. Garbage cleaning is carried out every day between 06.00 - 18.00 hours, ie, garbage scattered in the streets of the protocol are collected and put into the garbage container, that is to the TPS, but so far the garbage collected mostly on the street protocol, so as a janitor sometimes overwhelmed in collecting the garbage. Furthermore, garbage collected at the TPS and from the homes of residents transported by garbage vehicles duty from 06:00 pm - 06:00 am to Final Disposal. For garbage in Bersehati market is managed / handled by the market cleaners of the market that will be picked up by garbage trash. But from the experience that happens everyday that the garbage transported to the landfill can not be transported all of them, resulting in the buildup of garbage in the temporary dump site.

4. Element of Waste Transport Officer in Sub-districts

1) According to informant Roy, 46 years old and Meydi, 43 years old, respectively as Sario Sub-district garbage collector, level of education was junior and senior high school. Garbage cleaning is carried out every day between 06.00 - 18.00 hours, ie garbage scattered in the streets of protocol are collected and put into garbage container, that is garbage motor and garbage cart which is transported every afternoon and put into temporary dump site. After that, garbage at the temporary dump site will be taken by garbage vehicles and also collected by the population every day from 18.00 to 06.00, the garbage is transported and disposed to the landfill, but the garbage in the temporary dump site can not be transported all because the garbage only use 1 vehicle.

2) According to informants Tedi, aged 50 and Max, aged 45, each as Waste collector of Sario Kota Baru, level of education was senior high school. Garbage cleaning is carried out every day between 06.00 and 18.00, ie garbage scattered in the streets of protocol are collected and put into garbage container, that is garbage motor and garbage cart transported every afternoon at 16.00 and put into temporary dump site. After that, garbage at the temporary dump site will be taken by garbage vehicles and also in the houses of the people, every day from 18.00 to 06.00 garbage transported and disposed to landfill, but the garbage in the temporary dump site can not be transported all because used waste vehicle too little.

IV. DISCUSSION

1. Waste Management Policy Issues

Waste management, especially in urban areas, is now faced with complex problems. These problems include high rate of waste accumulation, human behavior which is still very low and the problem in the final disposal of garbage which always creates its own problems.

So far, waste management activities are carried out by the government. The main obstacle faced is the limited budget available in the management. Most of the funds used in waste management are sourced from hygiene levies. In the field, the largest use of funds is absorbed for collection and transportation activities, which is about 60-80% and levies. So that the improvement of services that can be provided very limited. In addition, public awareness in managing waste is still very low. Even to dispose of garbage in the space provided, many members of the community who can not fulfill it. The waterways are a favorite place to throw away the garbage. As a result there are puddles in the rainy season, because the existing breaker channel can not function optimally due to the pile of garbage in it. This condition, furthermore will greatly affect the condition of public health. Because of puddles on one side, and garbage on the other hand is very potential to spread various seeds of disease (Lino and Ismail, 2013).

The high population growth rate in Manado City is always accompanied by an increase in the rate of high pile of waste. As an illustration, the rate of piles of garbage for the Trade / Services area in Calaca and Pinaesaan village with the population of both urban villages is 1.331 + 2.280 people = 3.611 people, the total

waste production per day is 36 m3 and 72 m3 respectively 108 m3 , assuming the two areas, the rate of waste heap is 0.0299 m3 / person / day or 29.9 liters / person / day. For densely populated residential areas in Sario and Sario Kota Baru urban villages with 2.347 souls + 2.914 souls = 5.261 people, 7 m3 and 8 m3 of waste production per day is 15 m3, with the second assumption area, then the rate of waste accumulation is 0.00285 m3 / person / day or 2.85 liter / person / day.

2. Waste Management Policy Strategy

According to Kartikawan (2008) to meet the target needs of adequate waste management services to the community, it is necessary to create a conducive climate to support the participation of society and the private sector. Socializing the 3R concept (reduce, reuse and recycle) is the first target to go. So that can be instilled to the public that there is still a potential economic value. Hygiene conscious campaigns are needed to encourage people to collect the garbage in its place, rather than littering it in its place.

This concept encourages people to do waste management at the source, such as waste segregation and waste packaging properly. Furthermore this is intended to encourage the application of the concept of reuse, or reuse of waste components that still have economic value. Either by the source of waste or by other parties.

The next stage of waste management strategy is the increasing of service balance and the aspect of sanitary and economic importance, service quantity and quality of service. The recommended steps in determining waste management strategy are as described below.

1) Inventory of programs and data

Establishing an integrated solid waste management database that is conducted in-depth study on the amount of waste piles that occur as a basis for determining waste management policies. Ideally every Final Disposal Site must have a weighbridge to monitor the actual pile of waste. In the short term, the calculation of the rate of waste accumulation can be done by cooperating with the transportation agency in utilizing the weigh stations owned by the transportation agency to monitor the waste that will enter the landfill of waste (Hartanto, 2009). The next stage is further study of the composition and characteristics of waste. So it can be determined the type of waste processing required. So basically every Waste Disposal Site of waste scattered in various locations can be distinguished between organic and inorganic waste.

2) Determination of service orientation

By transferring waste management activities and purely done by the government, to a governing body formed specifically to carry out the task, it is expected to be achieved a change in service orientation and waste management activities. Financing constraints and existing technology, can be transformed into activities oriented to independence in carrying out activities. And this pattern is expected to get a transparent optimal solution.

3) Giving economic value to waste.

Waste management efforts should be viewed as a cost recovery activity. It should be reviewed the efforts to change the principle of waste management and disposal into a production activity. This can be done through the processing, by utilizing waste as raw material for making products that have economic value.

Various alternatives can be selected as pilot projects. For example with the formation of material recovery facility (MRF) in the garbage disposal site, composting, or waste transformation projects into energy.

4) Sustainable Final Waste Disposal Site

Furthermore, the garbage disposal in the Final Disposal Site must use sanitary landfill method, so the land requirement for the final waste disposal site can be limited and the environmental sustainability can be maintained and the sustainability of the location can be justified (Dwiyanto, 2011).

3. Handling of Waste

According to the Department of Public Works (1991) ideally, to determine the amount of waste dump that occurred, should be done with a study. But for practical purposes, a standard set by the Department of Public Works has been established. One of them is SK SNI S-04-1993-03 about the specification of garbage heap for small town and medium city where the amount of waste dump for medium town is equal to 2.75-3.25 liter / person / day or 0.7-0.8 kg / person / day.

From both cases in the center of trade / services and densely populated residential areas, where the results obtained that transport facilities are conducted equally between the two regions, whereas the rate of pile of waste generated between the two regions is very different, where the area of trade / service far more produce waste production, so waste management must be different, that is by increasing the number of garbage vehicles from 1 vehicle to 2 or 3 vehicles especially for market area where every garbage piling up during the day, the garbage officer directly transported to dispose to the place Final waste disposal. As is the case with the World

Ocean Conference, the Coral Triangle International Summit and Sail Bunaken, where garbage is no longer visible in the protocol streets and in garbage disposal sites both day and night, as the government increases the number of garbage vehicles and officers cleanliness, so the garbage can be resolved, but after the event is finished then back again in the previous settings. So basically the waste generated in the area of trade / services transported with adequate mobilization, so that every day transporting waste to the Final Disposal Place of waste can be transported entirely. There is also an added need for cleaners, because the garbage on the streets of the protocols every day is so overwhelming that officials are overwhelmed to clean it up.

Furthermore, waste management in densely populated residential areas is still in the method, where the cleaners work to clean the protocol road between 6:00 am to 6:00 pm hours and transport the garbage from the community into the cart or motorcycle of the garbage to the garbage disposal site, then the garbage transporting the garbage to the final waste disposal place at 6:00 pm to 06:00 am, but to be able to transport as a whole need the addition of carts and motorcycle garbage and garbage vehicles. So far, the garbage is not transported to the final waste disposal site, thus disturbing the surrounding environment (Handono, 2010). In addition, there is a need for a system of separation between organic and inorganic waste in waste disposal sites scattered in the area of Manado City, so for organic waste can be used as organic fertilizer or compost, especially wet garbage easily dissolved or dissolved, such as pieces of vegetables spinach , kale, cassava, corn, and stale vegetables.

V. CONCLUSION

Based on the results of the research and discussion that has been presented in the previous chapter, then furthermore it can be concluded that the management of waste management in Manado City for the trade / service area and densely populated residential areas are as follows:

1. In the area of trade / service, waste management is carried out at any time, where the garbage from the garbage disposal site or from the residents is directly transported to the final waste disposal site, because the rate of pile has exceeded the requirement of the pile of garbage for small and medium town areas, also the addition of facilities and garbage transportation infrastructure and janitor.
2. In densely populated residential areas, the method of garbage trash remains as it exists, but needs to be increased by the volume of socialization to raise public awareness.

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