Waste Management Problems in Banjarbaru City

Syafrullah¹, Agung Nugroho², Samahuddin Muharram³

¹Master of Science in Development Administration University of Lambung Mangkurat, Indonesia  
²³Faculty of Administration Lambung Mangkurat University

Abstract: The research is aimed to know waste management problems and strategy for waste management problems in Banjarbaru city. The method used descriptive qualitative approach to provide a systematic description and factual about the object researched with the data and the interview served in a sentence. Interviews were conducted to head of Cleaning and Gardening agency of Banjarbaru city, head of waste sector, head of sub division of waste management and waste management B3, head of sub division of waste management and control, staff of division of waste, supervisor of TPA/TPS (landfill site), Officers Weigh and communities at TPA (landfill site) Hutan Panjang. The Data were analyzed using triangulation of data. The result showed that waste management problems in Banjarbaru city was the low level of public awareness related to handling waste management, community participation were still low and tended of waste problems were a problem that must be resolved by the Government, (2) Limited facilities and infrastructure owned by Cleaning and Gardening agency of Banjarbaru city, (3) lack of operational budget for waste management in Banjarbaru City. Strategies for the handling of waste management in Banjarbaru was applied the rules of the Regional Regulation Number 3 of 2016 about Amendment to the Regional Regulation of Banjarbaru City Number 32 of 2011 about Retribution of Waste / Hygiene Services and Management for community who breaking the rules, formed technical implementation unit on waste management, and pushed to establish a waste bank in every neighborhood.

Keywords: Waste management and problems

1. Introduction

The waste problem is still one of the crucial agendas that must be taken seriously, requiring a high commitment from all sides and more effective approaches, so that the waste problem can resolve completely and quickly. During this time perspective on the waste problems are still partial and sectoral where a partial perspective emphasizes basic problems such as lack of the operational budget, human resources, and capacity of the infrastructure, While the sectoral perspective is more likely to emphasize the responsibility of handling waste to the government(Amu, 2014).

Based on several studies landfill waste volume in Indonesia, the volume of waste produced by each person in the Medium city is 0.5 until 0.7 kg per day and Banjarbaru city is included in the category of Medium Cities. In 2015, the volume of waste produced in Banjarbaru City reached 106.875 tons per day but it was able to be transported to be managed at the HutanPanjang landfill site only reached 90.30 tons per day or 84.50% of 106,875 tons of waste per day. Furthermore, in 2016, the volume of waste produced in Banjarbaru city reached 110,160 tons per day but it was able to be transported only reached 95.84 tons per day or 87% of 110,160 tons of waste per day (DKP, 2016).

Banjarbaru City has an agency that specifically handles waste issues, namely the Cleaning and Gardening agency of Banjarbaru city Office with a budget in 2015 of Rp. 45.95 billion for the waste sector amounting to Rp. 16.38 billion while in 2016 it amounted to Rp. 47.15 billion and for the waste sector amounted to Rp. 15.86 billion (DKP, 2016).

However, in handling one agency alone, it was unable to overcome the waste problem so that overall coordination was needed from all relevant agencies. This is evident because the waste management process carried out by cleaning and gardening agency still leaves trash heaps in several landfill site.

2. Materials and Methods

Object and Location of The Research:
The research was conducted at cleaning and gardening agency Office of Banjarbaru City, Landfill site of Hutan Panjang, and several landfill site in Banjarbaru city. The research was conducted in October 2016 until December 2016.

Method of Collecting Data:
This research used primary and secondary data. Primary data were obtained through interviews with the head of the waste sector, head of sub division of waste management and waste management B3, head of sub division of waste management and control, staff of division of waste, supervisor of TPA/TPS (landfill site), Officers Weigh and communities at TPA and TPS (landfill site) Hutan Panjang. Secondary data were obtained through collecting data in the form of books and related documents.

Data Analysis Unit:
The unit of analysis of this research was used the head of Cleaning and Gardening agency of Banjarbaru city, head of waste sector, head of sub division of waste management and waste management B3, head of sub division of waste management and control, staff of division of waste, supervisor of TPA/TPS (landfill site), Officers Weigh and communities at TPA (landfill site) Hutan Panjang. Determination of informants based on the consideration that they were aware of the information to be obtained.
3. Results and Discussion

Problems Identification of Waste Management Systems in Banjarbaru City:

Based on data and information are obtained from the Banjarbaru City Sanitation and Landscaping Service also direct observation of waste problems in Banjarbaru City, it is known that there are problems as follows:

Amount of Increasing Waste Volume and Overload:

Based on the results of interviews with the Head of Waste Management and the Head of B3 Waste Management Sub-Sector, Weighbridge Officers of the Sanitation and Landscaping Service of Banjarbaru City, observation results on the field it was found that in Banjarbaru City (2015) produced 106,875 tons of waste per day however, that can be transported and managed at the TPAST Long Forest only reaches 90.30 tons per day or 84.50% from 106,875 tons of waste per day. Furthermore in 2016 the amount of waste increased to 110,160 tons per day which was able to be transported by using a garbage truck only 95.84 tons per day or 87% of 110,160 tons per day. This data based on weighbridge calculation data Long Forest Integrated Waste Disposal Site (DKP 2016).

In addition increasing of the amount of waste volume is caused by increasing human population that change the lifestyle. Banjarbaru City is the center of consumptive and productive activities both quantitatively and qualitatively. Banjarbaru City as the center of population has a high level of economic needs; such as increasing housing needs and various city facilities as a service center for goods and services.

Coincide with that, lifestyle changes also have implications for consumption changes patterns that qualitatively create variation needs of consumptive products. The lifestyle tendency of the Banjarbaru city people is requires instant, either primary or secondary which increases very quickly. These two things need to be anticipated because along with population growth, changes in lifestyle that makes primary and secondary needs are increasing which increases the production of waste to multiply.

The efforts made by the Banjarbaru City Government to overcome the amount of waste volume by the Sanitation and Landscaping Service are to increase the number of laystalls and service hours to make it easier for people to dispose of garbage close to their living areas and transport garbage. At present there are 110 polling stations in the entire Banjarbaru City area, consisting of 41 containers, 38 cement tanks and 31 other wooden tanks. TPS is placed on the roadside which is easily reached in all service areas to accommodate garbage from settlements, markets, sweeping roads. The transportation process is carried out twice a day, namely in the morning and evening. The waste is in the TPS approximately 7-18 hours before being transported to the TPA by the manager.

Furthermore, other efforts carried out related to solving the waste problem are by issuing regulations, namely Regional Regulation Number 3/2016 about amendments to Banjarbaru City Regional Regulation No. 32/2011 about retribution and management of waste which regulates the hours and times allowed to dispose of garbage also penalties that will be given if there is a violation.

The Banjarbaru City Government also issued Regional Regulation No. 1/2015 about the submission of infrastructure, Facilities and Utilities for Housing and Settlements whose obligate every developer to provide public space or public facilities in every housing provided along with garbage or household shelter.

The area of Banjarbaru City is wide with the increasing of the population, but people awareness is not increasing that is a major problem in handling waste. Some indication that show about low public awareness about cleanliness as trash scattered in the front of the house or the side of the road without anyone being able to collect and put on trash can, there are still many people who throw garbage into the laystall not at the time which is between 6:00 p.m. until 06:00 a.m., also according to observation there is still a laystall without a container or in other words trash is thrown in one place that is not in accordance with the feasibility standard also motorists who often throw garbage in the middle of the road while riding a motorcycle or car.

Public awareness is the most urgent thing in the waste management system. Every year, no less than 10 times do socialization activities in five sub-districts in the Banjarbaru city. In this activity a number of community leaders such as Sub-District Head, Village Head, Community Leader, Religious Leader, RT / RW Forum and other stakeholders were present, which in the meeting expected that various problems in handling waste could be found as alternative solutions. But the fact that it often happens is precisely opposite, socialization meetings are not input or offer solutions that are revealed but tendencies to blame and participants complaints that lead to demands or requests.

In addition to socialization activities, an evaluation meeting was also held to assess the progress of handling waste in the field. Through dynamic discussions discussed the role of each participant based on their status and capacity in the community. The obstacles experienced by each role were revealed in the discussion. However, these efforts are not optimal, where the level of public awareness of disposing of garbage did not show a significant change.

Limited Amount of Waste Management Facilities and Infrastructure:

In 2015 the number of garbage transport fleets owned by the Sanitation and Landscaping Service of Banjarbaru City are 20 units. This amount is still felt lack so that in 2016 2 units were added to become 22 garbage fleet units. But even though it is increasing, it is still insufficient compared to the amount of waste volume that must be handled every day. The lack of the number of transport fleets certainly affects the delay in the process of transporting waste from TPS to the Long Forest TPAST.

Another problem related to the availability of facilities and infrastructure is the limited number of laystalls or containers

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which currently number is 116, that is not comparable with the population of Banjarbaru City.

In addition to the reason for the limited budget allocation for the laystalls, the Banjarbaru City Sanitation and Landscaping Service also found it difficult to obtain the location of the TPS placement that could be accepted by the community. The limited number is expected to decrease due to the large number of laystalls damaged or demolished by people who object if laystall are built around their settlements.

Therefore, the number of inadequate laystalls has caused new problems. Some areas that do not have laystall cause local people to take the initiative themselves by disposing of garbage in certain locations that sometimes do not meet standards and eligibility as laystall. Based on the results of observations in the field, it was found that as many as 20 wild laystalls which allegedly became the cause of the escalation of the garbage spread and became difficult to control. Related to this, there seems to be no alternative solution by the Sanitation and Landscaping Service of Banjarbaru City.

Related with the rejection and the difficulty of asking permission from community members, the Banjarbaru City Sanitation and Landscaping Service should be proactive in carrying out a persuasive approach. Because the people who feel the consequences of the poor chaos of waste management, it is logical that the community is also interested in handling the problem.

Specifically to solving the problem of the limited number of laystalls, the Banjarbaru City Government through the Banjarbaru City Sanitation and Landscaping Service seeks to approach various parties, including the private sector and the business community. Although these efforts have not shown satisfied results, in general the private sector and the business community have relatively positive responses.

Regarding the availability of garbage transportation facilities, the Banjarbaru City Sanitation and Landscaping Service also seeks to approach by offering options that can be played by the private sector such as giving a high-tech motorcycles and garbage bins. The approach is relatively giving a good result because several companies, both private and state-owned companies, such as: PT Adhi Karya, PT Angkasa Pura, South Kalimantan Bank and Bank BNI are involved in providing assistance.

**Minimal Allocation of Operating Budgets:**

One of important factors that determines the success of government in implementing an activity program is the availability of an adequate budget allocations. Because, almost every activity program including supporting infrastructure requires a financing component. Apart from the ability to do efficiency, but one thing a measurable standard of rationalization is needed to determine the ideal amount of each work program.

Related to the amount of the budget, there are two things that need to be done, namely how to achieve the target amount of budget revenues through waste retribution and how to improve services to the public, the private sector and the business world in order to obtain appreciation and be willing to pay retribution in accordance with regulations.

Based on the study and analysis conducted by the Sanitation and Landscaping Service of Banjarbaru City, the operational budget needs for a period of one year are estimated at around 20 billion rupiah. However, the budget realization received from the Banjarbaru City Government in 2015 was only Rp. 45.95 M and for the Waste Sector was Rp. 16.38 M and in 2016 was Rp. 47.15 M and for the Waste Sector was Rp. 15.85 M

Another cause of problems in budget allocation is the large amount of funds taken and prepared for the construction of the Idaman City Hospital in Banjarbaru where budgets from other agencies are reduced and diverted to the Hospital construction project including the budget for the Banjarbaru City Sanitation and Landscaping Service specifically the Waste Sector.

In order to solve the problem of limited operational budget, the Sanitation and Landscaping Service of the City of Banjarbaru made an effort namely involving the private sector and partners such as PT. Trakindo to request loans first, especially when there are machines that need to be repaired so that operations continue as usual.

**Strategy as an Effort to Solve Waste Problems:**

Strategy is a way to achieve goals, which are realized in the programs and activities that will be implemented. How to achieve the goal of increasing the percentage of garbage transportation by increasing waste transportation facilities and infrastructure, including increasing the transportation fleet in the service area. Meanwhile, to reduce the volume of waste in the source is needed to involve the community in waste management, especially household waste which has the highest percentage as a source of waste. The purpose of improving service efficiency and increasing the professionalism of the apparatus and janitors by giving an education and training as needed, also sosialitation for community such as cleaning, gardening and funeral services to reach all corners of Banjarbaru City.

**Enforcement of Regional Regulations on Waste:**

Population growth and changes in consumption patterns of the people in Banjarbaru City cause increasing the volume, type and characteristics of increasingly diverse waste. The Green and Clean Program, Kotaku (No Slum City) is a movement initiated by the Banjarbaru City Government through the Banjarbaru City Sanitation and Landscaping Service that cooperates with the Environmental Service and related stakeholders in an effort to improve health and reduce waste. Waste management requires legal certainty, responsible and obligation government, local government, and the role of the community and business world so that waste management can run proportionally, effectively and efficiently. Based on the mandate of Law No. 18 of 2008 concerning Waste Management and Permdagri No. 33 of 2010 about Guidelines for Waste Management; finally the Banjarbaru City Government issued a Regional Regulation
Establishment of Waste Technical Implementation Unit (UPT):

Waste management in Banjarbaru City is handled by the Sanitation and Landscaping Service. Waste management is handled by the Waste Sector which is directly responsible to the Head of the Sanitation and Landscaping Service. The Waste Sector has two sections, namely the Head of the Waste Management Sub-Sector and B3 Waste Management Sub-Sector and the Head of the Waste Management and Control Sub-Sector. Furthermore, the most important thing in Banjarbaru City is the discourse of the establishment of the Technical Implementation Unit (UPT) on waste management which is part of the waste management effort with a gathering-benefit paradigm. Institutional policies like this are considered to be in line with the mindset of waste processing.

Community Empowerment Through Waste Banks:

Waste Bank is an alternative to invite people to care about garbage. The Waste Bank is a household-based waste management system, providing rewards in the form of free cash or coupons to those who managed to sort and deposit a large amount of garbage. The Waste Bank is a place to collect various types of waste which have been separated according to their type to be deposited to the Waste Bank, the deposit proceeds will be saved and can be taken in accordance with the agreement.

The garbage that is deposited to the Waste Bank is divided into several types, namely organic waste and non-organic waste, for example: plastic, iron, vegetable pieces and many others. That way the garbage that can still be recycled like organic waste can still be used to be more useful for soil fertility. In addition, plastic waste is used for coating slippers, bags and other furniture. Plastics can also be used for pillow stuffing, paper can be recycled to make photo frames and box linings.

Waste Bank is made by following Law No. 18 of 2008 Waste Management that in the principle of waste management is reduce, reuse, recycle which means reducing, reusing and processing. The Waste Bank in its implementation can reduce the high rate of waste in the community and in the TPA(landfill) because the concept is the community sort their own waste, exchange the garbage to the Waste Bank and dispose of waste that is not included in the Waste Bank to the TPS then transported to the TPA. That way the volume of waste in the community and in the TPA can be reduced. The Waste Bank is an important part of the Banjarbaru City Government in obtaining the Adipura title, because the assessment looks at the extent of the city community in managing its own household waste. Another benefit of the Waste Bank is being able to absorb labor from the surrounding community so that it is expected to reduce unemployment.

Because the waste management system is the main activity in the Waste Bank, forming this system is the most important thing for the Waste Bank. First, customers must sort out the garbage in their houses that will be deposited to the Waste Bank. Second, after the customer has received the waste, the waste is deposited or collected in the Waste Bank. In this case, there are two ways to collect or deposit garbage, namely:

a. The customer directly deposits garbage to the Waste Bank.
b. The Waste Bank officer comes to the customer's house to collect the garbage.

The initial goal of establishing a Waste Bank is to create positive activities that are beneficial and can empower the surrounding community. With the passage of time, this activity not only produces a positive activity, but produces an activity that has economic value in it, namely the Waste Bank. The community can collect waste of household, waste that has been sorted first to be deposited to the Waste Bank, which is then exchanged for a number of rupiah in accordance with the value of the waste.

As discussed earlier, empowerment is to improve the ability of the community by developing and dominating the potential of the community to increase the dignity society levels. In other words, making the community capable and independent by creating a climate that enables to develop the potential of the community.

The Waste Bank has created a climate to develop people's potential by building people's mindsets and behaviors in managing and making waste as goods that have economic value. The Waste Bank also develops the economic potential waste through the center of creative industries that contribute significantly in reducing waste in a practical, inexpensive, creative and productive manner.

The Waste Bank empowers its customers through programs that are held. All of these programs create a pattern of thought in the community that garbage can be worth money for them by using the potential in the garbage. The Waste Bank also helps the community in developing the potential of their customers to work in a practical, inexpensive and creative way.

With the existence of a Waste Bank, the community becomes aware that the waste that has been underestimated, can actually bring economic benefit to the community. The rupiah value obtained from the waste is stored or saved by the customer and usually the results of the savings will be taken by the customer at certain times.

For customers who want to improve their economy by trading and do not have the capital or lack of capital, customers can make loans to the Waste Bank. And how to repay the loan, the Waste Bank does not require the customer to return the loan with money, but it may also be in the form of economically valuable waste.

Strategy Discussion As a efforts To Solve Waste Problem in Banjarbaru City:

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The discussion related to the implementation and enforcement of Regional Regulation No. 3 of 2016 about Amendments to the Regional Regulation of Banjarbaru City No. 32 of 2011 about Retribution Service and Management of Waste / Sanitation and strategic issues also problems that exist in waste management in Banjarbaru City are:

1) Limitations of Civil Servant Investigating Personnel (PPNS).
   The appointment and procurement of PPNS in the Banjarbaru had been carried out by the Regional Personnel Agency by appointing personnel from the official who fulfilled the requirements to be appointed as PPNS. The Sanitation and Landscaping Service of Banjarbaru City said that in every year the procurement maximum of PPNS is 2 people, and it is intended for Dinas that implement regulations related to the enforcement and investigation of criminal acts. From this condition, it is better to add more PPNS personnel to fit the conditions rationally with the conditions handled in the field. Currently the Banjarbaru City Sanitation and Landscaping Service does not have PPNS, making it very difficult to enforce the Regional Regulation and also coordinate with related parties.

2) Weak Coordination among Law Enforcement Officials.
   The weak coordination between law enforcement officers in carrying out their duties eventually led to the impression that PPNS was less professional in carrying out their duties and responsibilities. It should not be charged to PPNS only. However, it is also influenced by external factors, including weak coordination and lack of synergy with other law enforcement agencies resulting in the emergence of attractiveness of authority among law enforcement agencies. For example, when there is a violation of a person or agency violating cross-border (violation of the Waste Management Regulation), in that area there are police who have the authority to take action, but because the collaboration is less synergistic in the division of roles and communication as a result it is not reported to authorized PPNS that should be able to be dealt with in accordance with applicable regulations. Therefore the importance of realizing synergic coordination between law enforcers should be arranged:

3) Grand Strategy by:
   a) Improving the quality of the apparatus
   b) Improve coordination between law enforcement institutions
   c) Strive for the establishment or improvement of legislation to realize legal certainty
   d) Regional regulations governing PPNS, where this regulation regulates the position, the duties of the PPNS function and the mechanism of accountability, rights and obligations, appointment of mutations and dismissals, inauguration of vows / promises, identification cards, operational implementation, coordination of supervision and guidance, and financing.
   e) Limited Budget for PPNS Operations.
   f) At present, of course PPNS in Banjarbaru City are also looking for formats to find the right system. And this system is not only limited to the budget for operations and investigations but also the staffing system and reward system.

4) The substance of the regulations in the Regional Regulation Waste management related to binding obligations in waste management activities by the community, the business world and the Government itself has not been clearly explained in the implementing regulations (Governor Regulation) or implementation instructions and technical instructions.

5) In handling for violators of the local regulation on waste management, the Banjarbaru City Government through the Sanitation and Landscaping Service in collaboration with other agencies has carried out operations or raids. These operations or raids are aimed at direct action against the community which is known to directly dispose of waste or other types of objects considered garbage in any place in the entire Banjarbaru City area.

Establishment of Waste Technical Implementation Unit (UPT):
Related to discourse of the establishment of the Technical Implementation Unit (UPT) on waste management, which is part of the effort to manage waste with a gathering-managing-benefit paradigm. This Institutional policies are considered to be in line with the mindset of waste management considering that funding and the application of coordination between stakeholders will be able to maximize use. But with the limited budget and human resources, the formation of the UPT in Banjarbaru City cannot be done at this time.

Community Empowerment Through Waste Banks
The Banjarbaru City Government through the Sanitation and Landscaping Service of Banjarbaru City is preparing funds for the construction of a Waste Bank in each settlement. That was immediately responded to quite well by the Sub-Districts Heads throughout the City of Banjarbaru. The response they made was directly conveyed to all the Heads of neighborhood Association (RT and RW) in each region so that they would immediately be sent to all community members and would be able to immediately form a Waste Bank.

Currently the Waste Bank that is 66 pieces, but there is a problem of collecting garbage because of the very cheap selling price of Rp. 1,500 per kilo. In addition to the problem of the low selling price, the community members become members of the Garbage Bank also find it difficult to market the results of their creativity. The lack of promotion and their misunderstanding resulted in some of the Waste Banks
not running well even though initially they were quite smooth and had many members.

The current Banjarbaru City Government through the Sanitation and Landscaping Service will provide subsidies so that the selling price can be higher with the aim that those who collect waste can be increased. In addition, the Department of Industry and Trade of Banjarbaru City will provide assistance in the form of training and will promote each product resulting from garbage collection in every active Waste Bank.

4. Conclusion

The source of the waste management problems in Banjarbaru city was the low awareness and participation of the community in handling waste management, limited availability of facilities and infrastructure owned by the Banjarbaru City Government, in this case, the Cleaning and Gardening agency of Banjarbaru city, and lack of operational budget for waste management in Banjarbaru City.

The strategy about the waste management problems in Banjarbaru City was to apply penalties for people who violate and gave reward people who were aware and comply with local regulations of waste management, coordination between agencies, and pushed to establish a waste bank in every neighborhood.

References