

Evaluation of Waste Management Policies in The City of Palangka Raya

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ABSTRACT

Waste in Palangka Raya City, Central Kalimantan Province is relatively worrying, because the condition of waste generation in 2021 last reached 53,990.25 tons and unmanaged waste that year was 1,018.06 tons (SIPSN 2022). Based on these problems, the Palangka Raya City Government has established an Environmental Management and Waste Management Policy through Palangka Raya City Regional Regulation No. 01 of 2017 concerning Waste Management and Cleanliness. The aim of this research is to determine and analyze waste management policies in Palangka Raya City. The research method used is descriptive qualitative. Data collection techniques are carried out through interview observation and documentation. The data analysis technique is carried out by reducing data, presenting data and drawing conclusions. In this regard, in terms of implementing 3R waste management in the City of Palangka Raya, unmanaged waste will be reduced significantly in accordance with the policies set by the Regional Government and the Palangka Raya City DPRD.

Keywords: Waste Management Policies, City, Palangka Raya

1. INTRODUCTION

The World Health Organization (WHO) (1989) defines waste as goods originating from human activities that are no longer used, either unused, disliked or thrown away. According to Law Number 18 of 2008 concerning Waste Management, waste is defined as residue from human activities and/or natural processes in solid form [1]. Waste managed according to Law Number 18 of 2008 consists of household waste (which comes from daily activities in the household, except feces and specific waste), household waste (which comes from commercial, industrial, special, social, general and other facilities), as well as specific waste (containing hazardous and toxic materials, hazardous and toxic waste, disaster waste, building demolition debris, waste that cannot be processed technologically, and/or waste that does not occur regularly) [2].

Waste management in Indonesia is divided into two, first, management of household waste and similar waste. Household waste comes from daily activities in the household which does not include feces. The process of managing household waste and similar types of waste consists of two stages, namely waste reduction and waste handling. Waste reduction includes efforts to limit the amount of waste produced, reprocess waste, and reuse waste. The Deputy Minister of Environment and Forestry emphasized that waste management is the collective responsibility of all parties, including the government, business world, society and individuals. Second, specific waste. Waste included in the specific category is waste that requires special handling because of its nature, concentration and/or volume. PP Number 27 of 2020 concerning Specific Waste Management regulates Article 23 paragraph (2) of Law 18 of 2008 concerning Waste Management. Based on this regulation, the Central Government, provincial governments and district/city governments have the responsibility to handle waste that cannot be processed technologically [3].

Below is data on Palangka Raya City's waste accumulation for the last 3 years, namely from 2019 to 2021, this data was obtained from the National Waste Management Information System (SIPSN).

Tabel 1.1
Data Timbulan Sampah di Kota Palangka Raya

No	Tahun	Timbulan sampah/tahun (TON)	Sampah terkelola/tahun (ton)	Sampah tidak terkelola/tahun (ton)
1	2019	51.188,70	49.900,76	1.287,94
2	2020	52.570,77	51.249,95	1.320,82
3	2021	53.990,25	52.972,19	1.018,06
Jumlah		157.749,72	154.122,9	3.626,82

The efforts made by the Palangka Raya City Government and the Regional People's Representative Council (DPRD) of Palangka Raya City to maintain cleanliness and the environment, are not only limited to providing infrastructure, but also establishing policies related to environmental development and waste management by establishing Regional Regulations (Perda) Palangka Raya City Number: 01 of 2017 concerning Waste Management and Cleanliness. To implement this regional regulation, the Palangka Raya City Government has stipulated Mayor Regulation Number 43 of 2017 concerning Implementing Regulations for Palangka Raya City Regional Regulation Number 01 of 2017 concerning Waste Management and Environmental Cleanliness [4].

These Regional Regulations and Mayor Regulations are used as instruments of legal certainty for the community to obtain good services and waste management and cleanliness that are environmentally friendly [5]. Based on Regional Regulation Number 1 of 2017, waste management is divided into two indicator activities, namely handling and reducing waste, including driving the operations of the Waste Bank that has been established. As well as a Reduce, Reuse, Recycle (TPS-3R) waste processing site. On the other hand, provide waste depot containers or waste disposal sites (TPS), in the community, so that people do not throw rubbish carelessly.

2. METHODS

The research used in this study used descriptive qualitative research methods. The qualitative research approach is research to understand phenomena regarding what is assessed based on the research subject, for example behavior, perception, motivation, action. By descriptive means in the form of words and language. in a special scope using several natural methods. According to [6], qualitative research is able to produce research results in the form of in-depth descriptions of speech, writing or behavior that can be observed in a certain scope seen from a comprehensive point of view. According to Bogdan and Taylor in [6], qualitative research is a research procedure that produces descriptive data in the form of written or spoken words from people and observable behavior.

Qualitative research is descriptive, so the aim is to create a systematic, accurate and factual general description of the facts, characteristics and relationships between the phenomena being studied. [7] stated that the descriptive research method is a method used to examine the status of an object, condition, system of thought, or class of events in the present with the aim of creating a systematic, factual and accurate description, picture or painting regarding the facts, properties, as well as relationships between the phenomena being investigated. By achieving the goal of finding out the extent of the results of the Waste Management Policy Evaluation in Palangka Raya City.

3. RESULTS AND DISCUSSION

3.1 *Evaluation of Waste Management Policy in Palangka Raya City*

1. Effectiveness

a) **Mechanism for Implementing Waste Management policies in Palangka Raya City**

To see how the activities in terms of waste management procedures and mechanisms are carried out by the Palangka Raya City Environmental Service, you can see the results of the interview conducted with Mr. Teguh Jaya Permana, ST MT as Head of the Department's Waste and Hazardous and Toxic Waste (B3) Management Division. Environment and City of Palangka Raya as follows:

"How to implement/mechanism for implementation if handling is the government's job so we routinely transport waste from TPS, TPA illegal waste while the implementation mechanism to reduce waste we now have 56 units of waste banks, there is 1 main waste bank and there are 5 units of TPS3R but only 4 units are operational, 1 unit is still new then there is TPST 1 in Panarung and that is the place for reducing waste to achieve our target of reducing waste by 26%. Then there is a reduction in plastic waste generation from modern retailers such as Alfamart and Indomaret, right now they no longer use plastic bags he is included in the 26% waste reduction target. Then, from schools we have sent circulars to schools so that children can bring their own tumblr and bring their own lunch from home with the aim of reducing plastic waste and that is part of the implementation component of our waste reduction in the field so we have made efforts, namely socialization and We have also done what is according to the regulations. Waste data reporting is done through the SIPSN application and one in Indonesia can see it. Our collection and sorting implementation now uses regulations such as in the Palangka Raya City PERDA No. 1 of 2017 concerning Waste Management and Cleanliness and Mayor's Regulation Number 43 of 2017 concerning Implementing Regulations of Palangka Raya City Regional Regulation Number 01 of 2017 concerning Waste Management and Environmental Cleanliness, we have carried out the implementation. In order to provide an overview of waste management policies in terms of the infrastructure available in the City of Palangka Raya."

b) **Waste Management Using the 3R System (Reuse, Reduce, Recycle)**

To see the efficiency related to waste management with the 3R system by the Palangka Raya City Environmental Service, in this case Mr. Ir. Achmad Zaini, S.Hut as Head of the Environmental Service provided the following explanation:

We have held discussion forums with environmental observers in order to optimize the 3R concept of waste management. I hope to increase community participation in understanding the importance of good and sustainable waste management. This aims to preserve the environment and prevent pollution due to waste that is not managed properly. Environmental damage can occur due to piles of unprocessed waste. Therefore, public awareness is needed not to contribute to environmental damage.

In my opinion, the 3R concept (Reuse, Reduce, Recycle) can be a solution to preserve the environment in a simple and economical way. Processed waste can be used as compost or even as an alternative energy source. Anyone can apply the 3R concept every day.

With the reduce principle, we can reduce the use of materials that have the potential to damage the environment. The way to do this is to reduce purchases of items that are not really necessary, such as new clothes and additional accessories. Meanwhile, the concept of reuse or reuse of goods can be done by giving goods to orphans or families in need. Meanwhile, the concept of recycling is recycling waste into new items that can be reused

and function. For example, drink bottles can be used as plant pots by recycling organic waste at home.

Next, we will look at the opinions of the people of Palangka Raya city regarding Palangka Raya city waste management with our resource person, namely Mrs. Siti:

As a member of society, I think the implementation of the 3R concept, especially in terms of reduce and recycle, has begun to be implemented. For example, in shops like Alfamart or Indomaret, we no longer use plastic, but instead use tote bags. Apart from that, I also turned Aqua drink bottles into flower pots. However, not all people understand and apply the 3R method. In my opinion, the government needs to carry out wider outreach so that everyone can implement 3R. We want to know how we can apply the 3Rs in our daily lives

Based on the results of observations, the author sees that the Palangka Raya City government has established the 3R concept, but it is not yet effective because there are still many people who do not apply the 3R system in their daily lives.

2. Efficiency

Socialization of Waste Management

For the smooth running of the waste management program, the Palangka Raya city DLH certainly cannot work by itself without involving community participation. So, it is necessary to carry out outreach activities to the community in order to increase public knowledge regarding waste management carried out by the Palangka Raya City Environmental Service. In this case, Mr. Teguh Jaya Permana, ST MT as Head of the Waste and Hazardous and Toxic Waste Management Division (B3) provided an explanation, namely:

For the outreach carried out by the Palangka Raya City Environmental Service, we have carried it out in schools. We have created circulars to schools to encourage children to bring their own supplies from home, with the aim of reducing the use of plastic waste. This is one component of our implementation in the field, and we have carried out outreach efforts in accordance with applicable regulations.

The same thing was also said by Mr. Teguh Jaya Permana, ST MT as Head of the Waste and Hazardous and Toxic Waste Management Division (B3) of the Palangka Raya City Environmental Service in the following interview:

For outreach, we have visited schools and made circulars asking children to bring their own tumblers and supplies. Apart from that, we also often make posters in the field to remind people of the importance of throwing rubbish in the right place. We also carry out outreach at sub-district, sub-district offices and to communities on the banks of the river.

Meanwhile, the community's view of the efficiency of the Palangka Raya City DLH in carrying out waste management activities, Mr. Rian, as a member of the community, gave the following explanation:

So far, according to my observations, waste management has been good. There are time regulations for throwing away rubbish. However, I often see that there are still people who throw rubbish carelessly on empty land. I hope that this action can be more enforced among the community to maintain cleanliness and environmental sustainability in a more orderly manner.

Based on the results of the interviews that have been conducted, it can be concluded that the outreach carried out by DLH Palangka Raya City is still lacking because according to the public's opinion they often see people throwing rubbish on empty land, which needs to be followed up for outreach and sanctions for people who do things like this.

3. Adequacy

To see the adequacy regarding the availability of Temporary Disposal Sites by the Palangka Raya City DLH in waste management, in this case Mr. Teguh Jaya Permana, ST MT as Head of the Waste and Hazardous and Toxic Waste Management Division (B3) of the Palangka Raya City Environmental Service provided an explanation, namely:

Every year, our facilities and infrastructure (sarpras) continue to increase. This year, we plan to build 4 mini depots. Apart from that, in 2022, there will be 2 procurement of arm roll vehicles, 1 from Public Works and 1 from the Environmental Service. This will improve our infrastructure in waste management. Apart from that, we have set waste transportation hours in accordance with applicable regulations. This allows the public to dispose of waste according to the regulations and schedule determined by the mayor's regulations. We have also ensured that waste disposal sites (TPS) are evenly distributed in each area.

The same thing was also conveyed by Mr. Ir. Achmad Zaini, S.Hut as Head of the Palangka Raya City Environmental Service regarding the availability of facilities and infrastructure, namely:

We continue to improve facilities and infrastructure every year. TPS is almost evenly distributed in every region, and we have 13 dump trucks and 9 arm roll trucks. Apart from that, we have also provided rubbish bins on roads, city parks and other rubbish bins. With this rubbish bin, we hope that people can dispose of their rubbish in the places provided.

Meanwhile, according to Mr. Rian, the community's views regarding facilities and infrastructure in the city of Palangka Raya:

In my opinion, the facilities and infrastructure in Palangka Raya City are quite adequate. There are many rubbish bins evenly distributed in each area, and rubbish disposal hours are regulated in the regulations in force in Palangka Raya City. The team for transporting waste from the Waste Disposal Site (TPS) is also organized. As a member of society, I feel that the current facilities are sufficient.

Based on the results of the interview, the adequacy of facilities and infrastructure in waste management in Palangka Raya City has begun to be quite adequate, where TPS facilities are almost evenly distributed in every residential area, and the waste transportation schedule is also regular and the community disposes of waste regularly according to the time and applicable regulations.

4. Responsiveness

To find out how responsive DLH is in waste management to complaints about waste and pollution problems that occur in the community, according to Mr. Teguh Jaya Permana, ST MT as Head of the Waste and Hazardous and Toxic Waste (B3) Management Division, an environmental complaints section has been created on the DLH website. which is directly connected to the DLH complaints admin. The complaint will be continued to the field that handles it, such as the waste sector. Next, the team will check the complaint, handle the complaint, and answer the results of public complaints.

With the availability of a website as a form of complaint that can be used by the public regarding waste problems, Mr. Polpo as a member of the public gave the following opinion:

I personally don't know whether the Environmental Service has a website for complaints about rubbish problems. However, usually the Environmental Service provides a call center for the community, so that we can report piles of rubbish in the hope that it can be transported as quickly as possible. However, I myself have never tried using this service.

Based on the results of the interview, it can be seen that the responsiveness of the Palangka Raya City Environmental Service is quite quick to respond to public complaints about waste problems.

It can be seen that a call center service has been provided for the community so that they can report this waste problem. Through reports from this website, the Palangka Raya City Environmental Service will follow up as quickly as possible, but from the results of interviews with the public there is a lack of socialization regarding the existence of this website so that the public does not know about the existence of this website. It is hoped that the Environmental Service will be more aggressive in carrying out socialization, so that people know more about the website.

5. Accuracy

a) Waste Disposal Schedule

To find out the accuracy of waste management carried out by DLH in relation to the timeliness of waste transportation in Palangka Raya City, with the resource person Mr. Teguh Jaya Permana, ST MT as Head of the Waste Management Division and Hazardous and Toxic Waste (B3) of the Palangka Raya City Environmental Service. explanation as follows:

The time set by the Palangka Raya City Government (Pemko) for disposing of waste at the TPS is between 16.00 WIB and 07.00 WIB. Meanwhile, waste disposal hours at the waste depot transfer are from 04.00 WIB to 11.00 WIB in the morning, and from 15.00 WIB to 22.00 WIB in the afternoon.

The community on behalf of Mrs. Siti also stated the same thing regarding DLH's determination of the schedule for waste disposal, namely as follows:

Yes, now we have government regulations that regulate waste disposal schedules. As a society, we are expected to follow these rules by disposing of waste according to the time set and socialized by the government. By doing this, we play a role in maintaining the cleanliness and sustainability of the environment.

b) Performance in Waste Management

In carrying out planned activities, of course there is an assessment of the performance that has been carried out by DLH in waste management in Palangka Raya City as a form of evaluation that can be used to make plans even better. Regarding the performance that has been carried out by DLH in waste management, Mr. Teguh Jaya Permana, ST MT as Head of the Waste and Hazardous and Toxic Waste (B3) Management Division of the Palangka Raya City Environmental Service provided the following explanation:

We have PERWALI No. 20 of 2019 concerning Policies and Strategies for the City of Palangka Raya in Managing Household Waste and Similar Types of Household Waste. In this regulation, there are targets that we must achieve. As a waste management team, we work based on the targets set out in JAKSTRADA (Regional Policies and Strategies for Waste Management). One of the targets is to reduce the amount of waste by 26% by 2022. Apart from that, there is also a target for waste handling, where 73% of the total waste produced in Palangka Raya City (around 55,000 tons/year) must go to TPS in accordance with JAKSTRADA. Our performance has followed the procedures and plans that we have previously established.

In carrying out planned activities, of course there is an assessment of the performance that has been carried out by DLH in waste management in Palangka Raya City as a form of evaluation that can be used to make plans even better. Regarding the performance that has been carried out by DLH in waste management, meanwhile, every performance carried out by the government including DLH in waste management will of course be assessed by the public whether the performance has been carried out well or perhaps requires some evaluation therein. For this reason, community interviews provide the following explanation:

So far, the Environmental Service (DLH) has done quite a good job. However, there are several things that need to be improved, such as improving TPS and increasing outreach to the public so that they do not litter on empty land. This is important because the land owner may be unhappy with the action. However, in the end, it all depends on better public awareness and cooperation. Increased outreach is needed so that people are more aware and willing to cooperate.

However, DLH also experiences obstacles in dealing with the lack of awareness among the people of Palangka Raya City. There are still many people who throw away rubbish outside the schedule set by DLH or third parties, even though they know the schedule. As a result, some of the waste that should have been transported was not fully transported. The community needs to understand that to get a clean environment, support and cooperation between the community as waste producers and DLH as the waste manager is needed.

Based on the research results, it can be seen that the accuracy in waste management carried out by DLH Palangka Raya City is related to the time that has been planned according to the time that has been determined. This is done to prevent accumulation of waste at the TPS, so that during transportation time all the waste can be transported. However, to implement this, DLH needs support and awareness from the community to help their performance become better, namely by disposing of waste according to the time set by DLH or third parties by disposing of waste in the correct place.

The results of the study describe the main findings of the study. The presentations in the results and discussions are written in a systematic manner, only the results of data/information related to the research objectives. The discussion in the research article explains the results obtained from the research (10 pt).

The author compiles, analyzes, evaluates, interprets and compares the results of the latest findings with existing research findings. The author must pay attention to the consistency of the article from the title to the bibliography (10 pt).

Existing tables or figures are presented with sufficient explanations and by including numbers and titles. Complete the existing tables and figures by writing the source under each table/figure. The table is created without a vertical border. Example table.

CONCLUSION

Based on the description of the results and discussion above and in accordance with the policy analysis criteria according to William N. Dunn, a conclusion can be drawn as follows:

A. Evaluation of Waste Management Policy in Palangka Raya City

- 1) Effectiveness: thus it is known that DLH in its implementation of waste management in Palangka Raya City has been in accordance with what was planned, however the achievement of the set goals has not been effective or has not been carried out well. For waste management using the 3R (Reuse, Reduce, Recycle) system, the government has policies and programs, but if 3R can be implemented from the source (community) of the waste itself, the generation of unmanaged waste in Palangka Raya City will be reduced significantly. In accordance with the policies set by the Regional Government and DPRD of Palangka Raya City.
- 2) Efficiency: that the socialization of waste management has not been carried out efficiently, seen from the fact that there are still many people who still throw rubbish on empty land, this shows a lack of socialization and public awareness.

- 3) Adequacy: that the adequacy of the availability of facilities and infrastructure in Palangka Raya city's waste management is adequate and capable of meeting the rate of waste generation that occurs every day.
- 4) Alignment: The TPS is good, however, it is not optimal because there are several TPS that are damaged and need to be repaired immediately.
- 5) Responsiveness: DLH's responsiveness in dealing with public complaints related to waste issues is good, but DLH doesn't provide enough information to the public so there are people who don't know how to use the website.
- 6) Accuracy: that the accuracy in waste management carried out by the Palangka Raya City Environmental Service in terms of time has been planned according to the time that has been determined.

B. Supporting Factors and Inhibiting Factors

- 1) Supporting factors
 - a. There is a government program regarding waste management programs
 - b. There are sufficient funds for waste management and facilities and infrastructure
 - c. The existence of socialization can increase community participation and awareness
- 2) Obstacle factor
 - a. People are less aware of the importance of waste management
 - b. Lack of adequate facilities and infrastructure
 - c. Lack of socialization to the community
 - d. government programs regarding waste management are still lacking

C. Effort

Refers to the inhibiting factors that have been identified. The efforts of the Palangka Raya city government to improve waste management every year are through government programs and existing funds. The government is trying to improve existing facilities and infrastructure, as well as making efforts to gradually educate the public about the benefits and importance of waste management and sorting.

SUGGESTION

Based on the description of the conclusions as explained above, it can be recommended as follows;

1. It would be better for the Palangka Raya City Environmental Service to be more aggressive in providing education to the public, namely the importance of cleanliness and waste processing using programs that involve the public in its activities, so that public awareness is raised about the importance of the waste management policies that have been established.
2. It would be best for the Palangka Raya City Environmental Service to immediately repair the damaged TPS, so that access to facilities and infrastructure for disposing of public waste is sufficient.
3. Reactivate the waste bank and socialize it to the community so that people can sort waste.

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