

Efforts To Handle Waste Management Through Clean Village Program Planning In Improving Environmental Quality (Case Study Of Batang Kuis District)

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ABSTRACT

The environment is one of the factors that support the sustainability of human life. To meet the conditions of people who live healthy and prosperous in the future, it is necessary to have a healthy residential environment that avoids waste. This study aims to find out the condition of waste management in Batang Kuis District, to find out the role of the government and related parties in supporting effective waste management in Batang Kuis District, and to find out the efforts to handle waste management through the planning of a clean village program in improving environmental quality in Batang Kuis District. The method used in this study is a qualitative method with a descriptive approach. Data collection techniques are in the form of observation, interviews and documentation. The results of the study show that (1) The condition of waste management in Batang Kuis District shows several positive developments, although it is still faced with a number of challenges. Waste management in this sub-district is carried out through three main stages including collection, transportation, and disposal to the final disposal site (TPA). (2) The role of the Government and related parties in supporting effective waste management in Batang Kuis District by taking strategic steps, namely providing a fleet of waste transporters and building a more organized temporary disposal site (TPS), to facilitate the process of collecting and transporting waste. In addition, the government's involvement in educating the public, especially the younger generation, through educational programs. (3) Efforts to handle waste management through the planning of the clean village program in improving environmental quality in Batang Kuis District include training in waste sorting, composting, and the establishment of a waste bank. This program has succeeded in creating positive changes in residents' habits, especially in sorting waste and utilizing waste productively.

Keywords: Waste Management, Clean Village, Environment

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I. INTRODUCTION

Slums are an environmental condition for settlements that have unsuitable quality or are not in accordance with technology. The emergence of slums is due to several causal factors such as urbanization and migration factors, urban land, basic facilities and infrastructure, socio-economic, socio-cultural, spatial planning, accessibility, and education. The status of the environment is not in accordance with the technical livable house which can damage the quality of the environment as well as economic conditions and socio-cultural changes, and can give a bad face or image of the city that seems shabby (Syafitri, 2023). Slums are one of the main issues of urban development that is quite polemic, because the actual handling efforts from time to time have been carried out in direct proportion to the continued development of slums and the emergence of new slums (Subekti et al., 2020). One type of urban settlement that is often identified with negative stigma is the village. Villages as one of the informal sectors are often seen as slum areas (Wulanda & Ayuningtyas, 2023). Environmental problems are a global

challenge faced by every human, both in developed and developing countries. Indonesia itself is one of the developing countries that has never been spared from environmental problems. Both in villages and urban areas have the same environmental problems, namely limitations in waste management (Insani et al., 2024). The increasing activity of human activities often produces materials in the form of waste objects that will continuously become useless piles in nature. Waste objects that are useless and unwanted in the long term will become a serious problem so prevention must be carried out and solutions must be sought. Waste objects that are thrown away in nature are usually referred to as garbage.

Waste in nature is a serious problem because it has properties that are detrimental to other creatures living around it (Jubaedah et al., 2021).

Waste is one of the homework for the Government that must be completed wisely. With piles of garbage that are left alone without any meaningful handling from the government and the surrounding community, it will have an impact on many things, including the environment becoming dirty and smelly, health is disturbed and if dumped into the river it will cause flooding and pollution for marine habitats, if planted in the soil it will decompose for a long time and if burned it will result in air pollution (Dewi et al., 2022). Proper waste management such as separating kitchen waste, plastic waste, paper waste and production waste can minimize the amount of waste itself. Plastic waste can be recycled or resold, paper waste can be used to make recycled paper, kitchen waste can be reproduced into plant fertilizer, and waste in the form of chemical waste that receives special treatment in its disposal. In addition to recycling, several types of waste such as plastic, paper and metal waste can be resold and provide economic benefits (Juniarti, 2020).

The increase in population causes problems with garbage heaps, such as health problems and environmental pollution. Not all waste is easily destroyed, some take months to ten years to decompose. Therefore, if the volume of waste from the community is high, a large area of land is needed for the Final Disposal Site (TPA). Waste can be differentiated based on its source into residential (household) and non-residential (industrial) waste. Waste collection is the responsibility of every household and institution that produces waste, so the community needs to build a special place for waste collection. The waste is then transported to temporary and final landfills (Sari et al., 2023).

Waste management is the obligation of all parties, both the community as waste producers, the government and the hygiene management office. Waste must be handled from the source, namely from producers by implementing the 3R principles, namely *Reuse*, *Reduce* and *Recycle*. Because without public awareness, the basic principles of an environmentally friendly lifestyle such as 3R become difficult to apply and no matter how sophisticated the technology applied, the results will never be optimal, which will eventually lead to wasted funds (Ratnaningsih et al., 2020).

One solution that can be used to improve waste management is TPS 3R, which is an infrastructure for waste management that emphasizes the reduction, utilization, and processing of waste on a communal scale with the participation of the government and the community. In Law No. 18 of 2008 concerning Waste Management, or the Waste Management Law, the government has established a law that adopts the 3R approach to waste management in Indonesia. The 3R approach emphasizes that waste management must not only be the government responsible for managing waste, but also everyone in society and the private sector (Murni et al., 2023).

The problem of waste is something that really needs special attention because waste is a national problem. Failure in waste management has an impact on decreasing environmental quality. The environment is an important factor for human life, because the environment has three main functions.

The first function is to be processed into finished products that are both consumed as primary, secondary, and tertiary needs. The second function, as a source of pleasure that is natural, such as providing freshness due to the presence of air cool and comfortable to breathe, provide warm sunshine, provide clean and beautiful beaches for recreation and so on. The third function is an environment that provides itself as a place to accommodate and process waste naturally (Ghifari et al., 2024).

When people do not pay attention to the problem of waste management, the environment becomes worse and uncomfortable to live, which has an impact on public health. Environmentally unfriendly communities, such as littering in sewers or waterways, cause radasi and other derivative problems. This condition often occurs in densely populated cities (Murni et al., 2023). The low coverage of waste services and the increase in the volume of non-organic waste that is difficult to recycle and the suboptimal level of public awareness about cleanliness are the main problems in waste management. To overcome the problems arising from waste as one of the efforts to prevent settlements from slums and the creation of communities that care about the management of waste produced every day (Subekti et al., 2020). Community participation is the main capital in efforts to achieve the goals of government programs throughout Indonesia. Success in achieving the goals of implementing development programs is not solely based on the ability of government officials, but also related to efforts to realize the ability and security of the community to participate in the implementation of development programs (Wahyu Wulandari, 2022).

Batang Kuis District is located in Deli Serdang Regency, North Sumatra, and is one of the areas that has considerable economic and social potential. This sub-district is known for its social and cultural diversity as well as abundant natural potential, such as the agricultural and trade sectors. The majority of the people of Batang Kuis work as farmers, traders, and informal sector workers. In addition, this sub-district is also experiencing rapid development, both in terms of infrastructure and community empowerment programs (Id.wikipedia.org, 2024). One of the important initiatives that is being promoted is the Clean Village program to improve environmental quality, with a focus on waste management and environmental cleanliness. With this program, it is hoped that Batang Kuis District can become a model of a clean, healthy, and environmentally friendly sub-district.

Based on the observations that have been made, settlements in the Batang Kuis area face serious problems related to waste management, characterized by low public awareness in sorting and disposing of waste in appropriate places. This condition is exacerbated by the lack of waste management facilities, such as adequate temporary disposal sites, as well as poorly organized transportation systems. Waste that accumulates in waterways and residential areas causes environmental pollution, flood risk, and reduces the quality of public health. This situation shows the importance of planning programs that actively involve the community to create a clean and healthy environment through sustainable waste management.

Community participation in area management is still low, as can be seen from the lack of citizen involvement in environmental planning programs that have been carried out. The main factors that affect this condition are the lack of public understanding of the importance of environmental management, as well as the low synergy between the government and the community in implementing sustainable slum management programs. This shows the need to optimize the role of the community to create a more decent residential environment and support sustainable development.

Based on research conducted by Ghofur et al., (2024), it shows that efforts to preserve, supervise, and coach with the aim of improving environmental harmony, preservation, and balance must be the responsibility of the community in solving environmental problems so that they can achieve the welfare and sustainability of current and future generations.

Research conducted by Palguna & Wibowo, (2023), shows that the handling of environments

that have decreased in quality can be done by preventing new slums and improving the quality of slum environments. The quality improvement strategy is carried out by efforts to improve basic facilities and change the appearance of settlements through the creation of thematic villages with the improvement of infrastructure facilities.

This study aims to find out the condition of waste management in Batang Kuis District, to find out the role of the government and related parties in supporting effective waste management in Batang Kuis District, and to find out the efforts to handle waste management through the planning of a clean village program in improving environmental quality in Batang Kuis District.

II. RESEARCH OBJECTIVES

The objectives of this study are as follows:

- a. Identifying waste management problems in Batang Kuis District.
- b. Analyze existing policies and programs in handling waste management in Batang Kuis District.
- c. Designing an effective and efficient clean village program in handling waste management in Batang Kuis District.
- d. Improving the quality of the environment in Batang Kuis District through effective and efficient waste management.

III. RESEARCH BENEFITS

The benefits of this research are as follows:

- a. Contributing to improving the quality of the environment in Batang Kuis District.
- b. Assisting the government and the community in handling effective and efficient waste management.
- c. Increasing public awareness and participation in handling waste management.
- d. Providing accurate information and data on the handling of waste management in Batang Kuis District.

IV. DISCUSSION

A. Definition of Waste Management

Waste management is the process of collecting, transporting, processing, and disposing of waste that is carried out systematically and structured to reduce the negative impact of waste on the environment and public health. (Law Number 18 of 2008). Waste management in Indonesia is divided into two, the first is the management of household waste and household waste and the second is the management of specific waste.

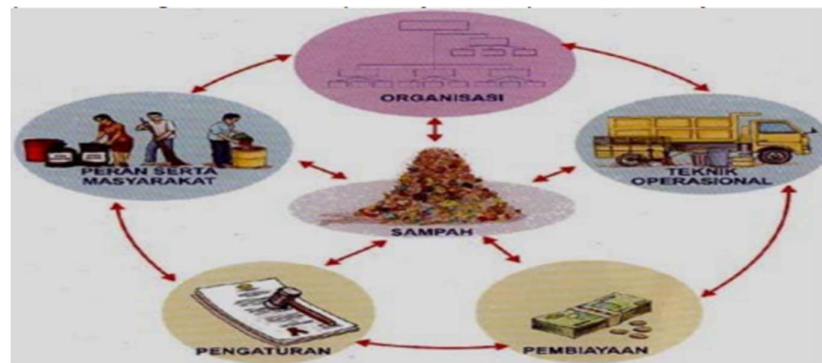
The components of Waste Management are as follows:

- a. Waste Collection: The process of collecting waste from its source, such as household, industry.
- b. Waste Transportation: The process of transporting waste from a collection point to a treatment or disposal site.
- c. Waste Processing: The process of processing waste into more useful materials, such as compost, biogas.
- d. Waste Disposal: The process of disposing of waste that can no longer be processed or used.

Waste management practices differ between developed and developing countries, as well as between urban and rural areas and between residential and industrial areas. The management of non-hazardous waste from residential and institutional areas in metropolitan areas is usually the responsibility of local governments, while waste from commercial and industrial areas is usually

handled by waste treatment companies. Waste management methods vary depending on many things, including the type of waste substance, the land used for processing, and the availability of land. Below is a picture of the waste management scheme.

Figure 1. Waste Management Scheme.



(Source: Department of Public Works, (SNI 19-2454-2002))

B. Prevention of Waste Management

Waste management prevention is an effort to reduce the amount of waste produced and avoid the negative impact of waste on the environment. Here are some ways to prevent waste management. An important method of waste management is the prevention of waste substances from forming, also known as "waste prevention". Prevention methods include reusing used items, repairing damaged items, designing products to be refillable or reusable (such as cotton shopping bags replacing plastic bags), encouraging consumers to avoid the use of single-use items (e.g., tissue paper), and designing products that use less materials for the same function (e.g., reducing the weight of beverage cans

How to Prevent Waste Management:

- a. Reducing the Use of Non-Recyclable Materials: Reducing the use of non-recyclable materials such as plastic, paper, and others.
- b. Using Recyclable Materials: Using recyclable materials such as recycled paper, recycled plastic, and others.
- c. Composting: Composting from organic waste such as vegetables, fruits, and others.
- d. Using Waste as Fuel: Using waste as fuel such as biogas, etc.
- e. Reduce the Use of Packaging: Reduce the use of unnecessary packaging such as plastic, paper, and others.
- f. Using Eco-Friendly Products: Using eco-friendly products such as soaps that do not contain phosphates, etc.

C. Government Regulation on Waste Networks in Batang Kuis District, Deli Serdang Regency. According to Regent Regulation Number 16 of 2023 concerning Waste Network Plan:

1. as intended in Article 5 paragraph (1) letter h, consisting of:
 - a. waste management site reuse, reduce, recycle (TPS3R)
 - b. temporary shelters (TPS); and
 - c. final processing site (TPA).
2. The Reuse, Reduce, Recycle (TPS3R) Waste Management Site as referred to in paragraph (1) letter

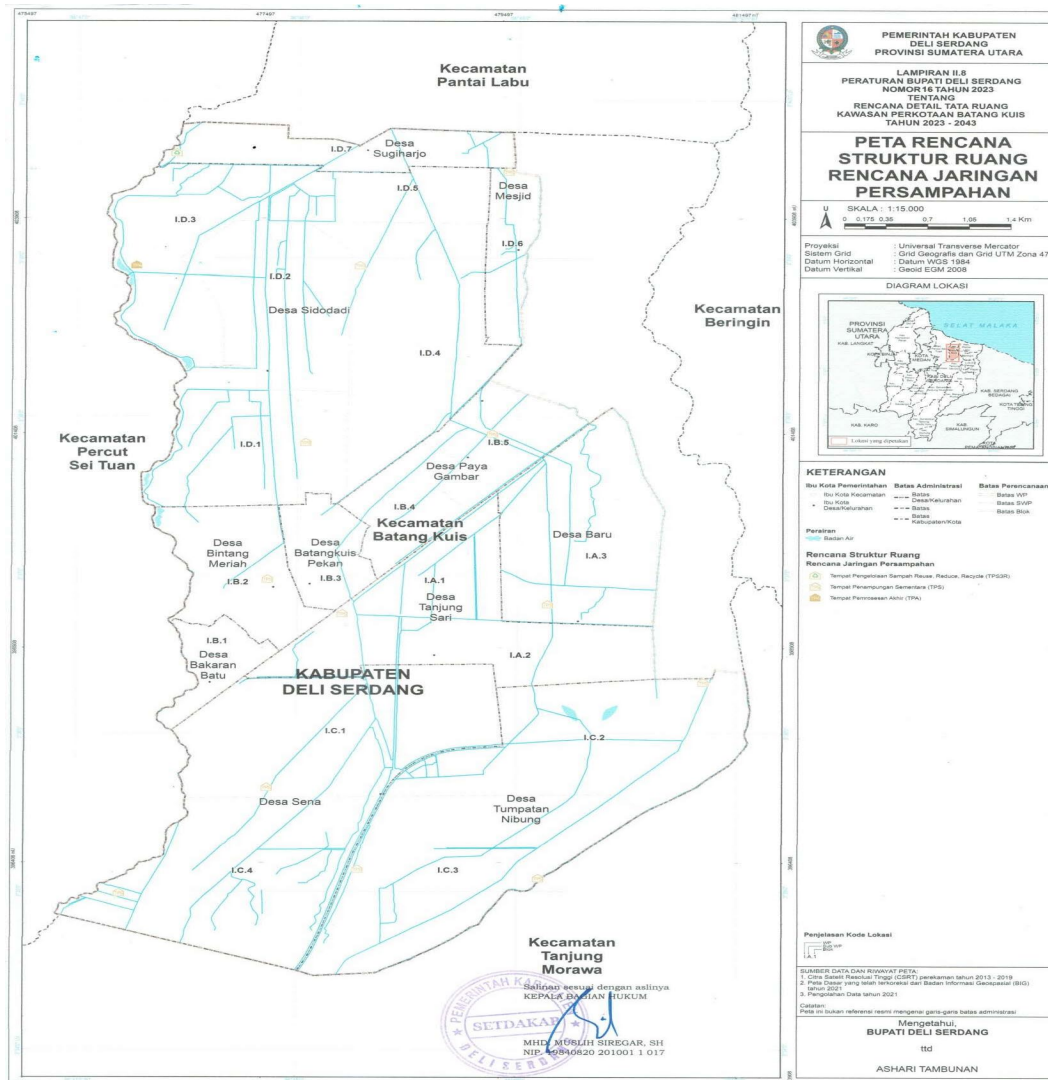
- a is located in SWP D in Block D.7
3. Temporary shelters (TPS) as referred to in paragraph (1) letter b, are located at:
 - a. SWP A in Block A.1 and Block A.3;
 - b. SWP B in Block B.2 and Block B.5;
 - c. SWP C in Block C.1, Block C.2, Block C.3, and Block C.4; and
 - d. SWP D in Block D.1, Block D.4, and Block D.6.
 4. The Final Processing Place (TPA) as referred to in paragraph (1) letter c is located in SWP D in Block D.3
 5. The waste network plan as referred to in paragraph (1) is depicted in the map with geometric accuracy and detailed accuracy of information on a scale of 1:5,000 listed in the table below.

Table 1. Indication of the Waste Network Plan Program in Batang Kuis District.

I.H	Rencana Jaringan Persampahan												APBD	Pemerintah Kabupaten Deli Serdang:			
I.H.1	Pengembangan Tempat Pengolahan Sampah 3R (TPS3R)	SWP D pada Blok D.7														APBD	<u>Pemerintah Kabupaten Deli Serdang:</u> Dinas <u>Perkimtan</u> , dan Dinas Lingkungan Hidup.
I.H.2	Pembangunan Tempat Penampungan Sementara (TPS)	1. SWP A pada Blok A.1 dan Blok A.3 2. SWP B pada Blok B.2 dan Blok B.5 3. SWP C pada Blok C.1, Blok C.2, Blok C.3, dan Blok C.4 4. SWP D pada Blok D.1, Blok D.4, dan Blok D.6														APBD	<u>Pemerintah Kabupaten Deli Serdang:</u> 1. Dinas Lingkungan Hidup; dan 2. Dinas <u>Perkimtan</u> .
I.H.3	Pembangunan Tempat Penampungan Akhir (TPA)	SWP D pada Blok D.3														APBD	<u>Pemerintah Kabupaten Deli Serdang:</u> 1. Dinas Lingkungan Hidup; dan 2. Dinas <u>Perkimtan</u> .
I.H.4	Mobilisasi sarana pembuangan sampah	Seluruh Wilayah Perencanaan Batang Kuis														APBD	<u>Pemerintah Kabupaten Deli Serdang:</u> Dinas CKTR

*Source : Deli Serdang Regent Regulation Number 16 of 2023
(Detailed Spatial Plan for Batang Kuis Urban Area 2023 – 2043)*

Figure 2. Map of the spatial structure of the waste network plan in Batang Kuis District.



Source : Deli Serdang Regent Regulation Number 16 of 2023
(Detailed Spatial Plan for Batang Kuis Urban Area 2023 – 2043)

V. RESEARCH METHODS

This study uses a qualitative type of research. Qualitative research as a strategy that emphasizes the search for meaning, understanding, concepts, characteristics, symptoms, symbols and descriptions of a phenomenon, focused and multimethodical, natural and holistic, prioritizes quality, uses several methods, and is presented in a narrative manner that aims to find answers to a phenomenon or question through the application of scientific procedures systematically using a qualitative approach.

The research approach carried out is qualitative research with a descriptive nature. According to Sugiyono (2019), descriptive qualitative research is research based on the philosophy of postpositivism used to research on the condition of natural objects where the researcher is the key instrument. This type of research is aimed at describing and describing existing phenomena, both natural and man-made, that pay more attention to the characteristics, quality, and relationship

between activities. Descriptive research is research that seeks to explain the solution of existing problems based on data-data. Descriptive research is a form of research aimed at describing or describing existing phenomena, both natural and man-made phenomena (Moleong, 2017).

A descriptive approach is used in this study because it aims to describe in detail waste management efforts through the planning of the Clean Village program in improving environmental quality in Batang Kuis District. This approach will explain and analyze the steps that have been taken. Thus, this study is able to provide a clear and detailed picture of the effectiveness of the Clean Village program, so that it can be a reference for better waste management in the future.

The type of data used in this study is qualitative data. Qualitative data is obtained from oral or written words observed by researchers, and objects observed in detail so that the meaning implied in the document or object can be captured (Arikunto, 2019). Data sources are the subjects from which the data in a study can be obtained. The data sources in this study are primary data sources and secondary data sources. Primary data sources were obtained through the results of interviews conducted with informants in the study. An informant is someone who has a lot of information and data related to the problem and object being researched so that later information will be asked about the object of the research. Secondary data sources are data sources that do not directly provide data to data collectors, for example through other people or through documents. The secondary source of data in this study is documentation related to the research topic (Sugiyono, 2021).

Data collection techniques according to Arikunto (2019) are methods that can be used by researchers to collect data, where the method shows something abstract, cannot be realized in an object that is visible, but can be shown its use. Data collection aims to find data in the field which is carried out through observation, interview and documentation methods.

Observation or observation can be interpreted as systematic observation and recording of symptoms that appear in the object of research. An interview is a conversation with a specific intention carried out by two parties, namely the interviewer who asks the question and the interviewee to provide answers to the questions given. Documentation studies are complementary to the use of observation and interview techniques in qualitative research, even the credibility of qualitative research results will be higher if they involve or use documentation studies in their qualitative research methods. Documentation is carried out to collect data in the form of recording the results of direct interviews, documents from agencies related to research problems (Sugiyono., 2019). Interviews in this study were conducted with 2 local government sources. The data analysis technique used in this study uses the Miles and Huberman model which consists of data reduction, data presentation and conclusion drawn. Data analysis using the Miles and Huberman model was carried out interactively and lasted continuously until it was complete, so that the data was saturated. Data reduction is defined as the selection process, focusing on simplifying, abstracting, and transforming "rough" data that emerges from field records. Data presentation is the description of a set of information that provides the possibility of drawing conclusions and taking actions. The presentation of qualitative data is presented in the form of narrative text. Drawing conclusions or verification is the final activity of qualitative research. Researchers must arrive at a conclusion and verify, both in terms of the meaning and truth of the conclusion agreed upon by the place where the research was carried out (Sugiyono, 2021).

VI. RESULTS AND DISCUSSION

A. Waste Management Conditions in Batang Kuis District

The higher the socio-economic condition of the community, the more per capita the amount of waste that is thrown away. The quality of the waste is also increasingly non-degradable, the change in the quality of this waste depends on the available materials, applicable regulations and public awareness of waste problems. This increase in welfare will also increase activities and contributions and the renewal of buildings and transformations will increase, agricultural and industrial residents will get consequences with an increase in the volume and type of waste (Situmeang et al., 2023). Waste management is one of the activities that requires community participation in its implementation. In Indonesia, one form of community participation in waste management activities is the establishment of a waste bank. The waste bank is the development of the concept of waste management in Indonesia with the 3R (*reuse, reduce, recycle*) method (Ghifari et al., 2024).

The waste problem is one of the main homework in Indonesia, this is because of the accumulation of waste in landfills that are not decomposed and not managed properly. In fact, if waste can be managed properly, the environment will get a positive impact and also benefits in the economic aspect. But in reality, not all people know how to have a good and correct waste management system (Jubaedah et al., 2021). In Batang Kuis District, the waste management system implemented aims to maintain cleanliness and environmental quality. Currently, the local government has initiated various programs and policies to optimize waste management, such as the establishment of waste banks in several villages, waste sorting training, and community empowerment in managing organic and inorganic waste. This is as shown in the following interview.

"The waste management system in Batang Kuis District is carried out through three main stages: collection, transportation, and disposal to the landfill. We also encourage community-based management programs, such as a waste bank to recycle inorganic waste, as well as training in composting from organic waste. Currently, we are working to improve facilities, such as providing additional transport vehicles and improving management at the landfill", (Informant: RM as the Head of the Environment Agency).

"Every day, our cleaners collect garbage from houses and temporary collection points in the residents' neighborhoods. We also educate the public about the importance of sorting organic and non-organic waste. However, there are still obstacles, such as the limited fleet of garbage carriers and the lack of public awareness to sort waste from the source", (Informant: RK as a Staff of the Sanitation Service).

Lack of environmental awareness is one of the factors that make the environment a slum. Littering is a form of public awareness of the environment. Throwing garbage out of place is a simple action but has a great impact. The lack of environmental awareness of the community in waste management can be observed directly, for example waste that is widely dumped in sewers and rivers as well as on the streets when driving vehicles. It is a small event that can have a big impact that can result in flooding and the environment becoming a slum (Sitohang et al., 2022). Community awareness is a person's ability where a person is able to realize that the relationship between human activities and the environment is very close, with this awareness, a safe and healthy environment will be created. That way the quality of life will be better. For the problem of community service, it is carried out because residents throw garbage carelessly, resulting in the accumulation of garbage (Ghofur et al., 2024).

The level of community participation in waste management in Batang Kuis District shows

positive developments even though it still faces several challenges. Most residents are beginning to realize the importance of their role in keeping the environment clean, with many of them active in waste sorting programs and the establishment of waste banks at the village level. The following are the results of an interview with one of the community regarding participation in environmental management.

"Community participation in our environment has begun to increase, especially since the existence of the waste bank program. Some residents have started to sort organic and inorganic waste, although many are still not used to it. The main obstacle is the lack of facilities, such as a special place to sort waste, and a lack of understanding of the benefits of good waste management", (Informant: OK as a Community).

One of the problems caused by waste is the decline in aesthetics around the landfill so that it has the potential to cause social conflicts with the surrounding community. The opposition carried out by the surrounding community is generally related to causes that endanger health, safety, reduced comfort and land limitations, especially for landfill placement. The placement of landfills requires a large area of land while land in big cities is getting narrower due to the increasing population. The environmental and social impacts arising from landfills have become a common phenomenon in big cities and even lead to vertical conflicts. Resistance to landfills by local residents has become a common phenomenon. In the context of solving the waste problem, changing consumption patterns is one of the approaches that must start (Sari et al., 2023).

Based on the above, it can be analyzed that the condition of waste management in Batang Kuis District shows several positive developments, although it is still faced with a number of challenges. Waste management in this sub-district is carried out through three main stages including collection, transportation, and disposal to the final disposal site (TPA). This process is well structured, but there are still problems that need to be overcome, such as the limitation of the waste transportation fleet. This results in an inability to manage waste optimally, especially in more remote areas. To address this problem, the local government is trying to improve facilities, such as providing additional transport vehicles and improving landfill management, which is expected to improve the efficiency of the waste management system.

The waste management program in Batang Kuis is community-based, such as a waste bank and training in making compost from organic waste. This program aims to empower the community in sorting waste from households, so that waste can be managed better. Although there are efforts to educate the public about the importance of sorting waste, there are still many residents who are not used to doing this. One of the main obstacles faced is the lack of facilities for waste sorting and public understanding of the benefits of good waste management. This shows that existing education programs are not fully effective in changing people's behavior.

Community participation in waste management shows a positive trend, especially with the existence of a waste bank that is starting to be in demand by residents. The people involved in this program began to sort organic and inorganic waste, although there are still some who do not care about the importance of this activity. The lack of understanding of the environmental impact of poor waste management is one of the causes of the low level of active participation from all residents. In addition, inadequate facilities, such as waste sorting sites that are not evenly distributed in every house or neighborhood, also hinder efforts to increase community participation.

Overall, although the waste management system in Batang Kuis District already has a good

foundation, there are still many shortcomings that need to be improved. Limited facilities, low public awareness, and problems in community-based waste management are the main challenges that must be overcome immediately so that waste management can run more effectively and the environment becomes cleaner and healthier.

B. The Role of the Government and Related Parties in Supporting Effective Waste Management

Waste is one of the consequences of natural and human activities that do not have economic value. It is undeniable that garbage will always exist as long as life activities are still running. In an effort to handle the waste problem, there is a need for real cooperation between the government and the community for the realization of a clean and comfortable environment that is coveted together. Government Regulation No. 81 of 2012 provides directions for waste management with the paradigm of gathering and transporting waste to change to a waste management model based on reducing and handling waste at the source. The community's mindset is directed towards waste reduction activities and their handling (Auliani et al., 2021).

Some of the impacts if waste is not managed properly, waste can become a source of disease, and the environment becomes dirty. The large amount of garbage scattered from traders selling is due to the lack of role of traders in maintaining the cleanliness of the market, unavailable garbage cans and lack of awareness of maintaining cleanliness. In addition, the accumulation of waste also occurs due to landfills that have not been available until now. The availability of garbage cans is actually maximum, but public awareness of disposing of garbage in its place is very lacking (Dewi et al., 2022).

Slum environmental conditions are a serious problem in many cities around the world. A slum environment can endanger the health and safety of the residents living in it, as well as damage the surrounding environment. Slum environments usually have characteristics such as not meeting the sanitation and safety standards required to ensure the health and safety of their occupants. A poor environment can cause several problems such as fires, floods, noise, and poor health due to moisture, insects, and poor sanitation conditions and can ruin the appearance of the city. With these problems, development programs that improve environmental quality are needed (Palguna & Wibowo, 2023).

The local government of Batang Kuis District has initiated various programs and policies to support better and sustainable waste management. These programs are designed to increase public awareness, optimize waste management, and reduce the negative impact of waste on the environment. Some of the policies that have been implemented include the establishment of waste banks at the village level, training on waste sorting, and community empowerment in managing organic and inorganic waste. This is as explained in the following interview.

"We support the Clean Village program by providing a fleet of garbage carriers and building a more organized temporary disposal site (TPS). In addition, we collaborate with schools to educate students about waste management from an early age through the Waste Care School program. This program is designed to build children's awareness so that they can become agents of change in their respective environments", (Informant: RK as a Staff of the Hygiene Office).

Cooperation between local governments and community organizations in waste management is one of the important aspects to achieve effective and sustainable waste management. In Batang Kuis District, this form of cooperation can be seen in various programs that involve active community participation, such as the establishment of a waste bank, waste management training, and counseling on the importance of waste sorting from the source.

Through this collaboration, the local government not only acts as a facilitator and regulator, but also invites community organizations to participate in waste management and recycling. This is as revealed in the following interview results.

"We work closely with community organizations, such as youth groups and PKK women, through

waste management education programs. We also involve community organizations in the establishment and management of waste banks in several villages", (Informant: RM as the Head of the Environment Office).

"The cooperation between the government and community organizations here is quite good. For example, the government often invites us to participate in waste management training held with the environmental community. In addition, community organizations in our village, such as women's groups, receive recycling equipment assistance from the government to support waste bank activities", (Informant: OK as a Community).

In addition to the government, business actors and communities that produce waste are also responsible for keeping the environment clean and healthy. Therefore, there needs to be good cooperation between the government, business actors, and the community in overcoming the waste problem. The role of the community is highly dependent on the community's understanding of the importance of managing waste and creating a waste-free environment. In addition, the community's willingness to manage waste and create a waste-free environment is highly dependent on their income. Knowledge of eco-friendly behavior does not necessarily indicate that a person cares about the environment. However, this knowledge is an important part of the internal factors that can encourage a person to change their attitude towards the environment (Murni et al., 2023).

Based on the explanation above, it can be analyzed that the role of the Government and related parties is very crucial in supporting effective waste management in Batang Kuis District. The local government has taken strategic steps by providing a fleet of garbage carriers and building more organized temporary disposal sites (TPS), to facilitate the process of collecting and transporting waste. In addition, the government's involvement in educating the public, especially the younger generation, through educational programs such as the Waste Care School is very important in instilling awareness about the importance of good waste management from an early age. With this approach, children are expected to become agents of change who introduce the concept of more environmentally friendly waste management in their daily lives.

The government also builds close partnerships with various community organizations, such as youth groups, PKK women, and other environmental communities, in waste management efforts. This collaboration includes educational and training activities that lead to increasing community capacity in managing waste, including in the establishment and management of waste banks at the village level. Involving the community in waste management, both through sorting, recycling, and composting activities, also increases the sense of responsibility and community participation in environmental cleanliness.

In addition, facility support from the government, such as recycling equipment assistance to community groups, is very important in strengthening the success of the waste bank program. The provision of these facilities ensures that waste management activities can run more efficiently and effectively, while increasing the usability of waste that was previously unmanaged. Overall, the role of the government in synergy with the community and related organizations shows great potential in creating better waste management, which not only supports environmental cleanliness but also creates collective awareness of the importance of sustainable waste management.

C. Efforts to Handle Waste Management Through Clean Village Program Planning in Improving Environmental Quality in Batang Kuis District

The waste bank program is conceptually a program carried out to encourage the community to be willing to sort waste. A waste bank is a place for sorting and collecting waste that can be recycled and reused and has economic value. The benefits of waste banks, in addition to being able to help the government to solve waste problems, have a very good impact on the environment (Erika Depi Permatasari et al., 2022). Local governments have the authority to manage waste in the district or city area, namely:

- 1) Establish waste management policies and strategies based on national and provincial policies;
- 2) Organizing district/city-scale waste management in accordance with norms, standards, procedures, and criteria set by the government;
- 3) Coaching and supervising waste management performance carried out by other parties;
- 4) Determine the location of temporary shelters, integrated waste treatment sites, and/or final waste processing sites;
- 5) Conduct periodic monitoring and evaluation every 6 (six) months for 20 (twenty) years of the final processing site of waste with an open disposal system that has been closed; and
- 6) Develop and implement an emergency response system for waste management in accordance with its authority (Situmeang et al., 2023).

Waste selection can provide an understanding to the community of the importance of protecting the surrounding environment. Waste selection activities are activities in the form of separating and grouping waste according to the type of waste (Dewi et al., 2022). The planning steps carried out in the implementation of the Clean Village program in Batang Kuis District are very important to ensure the success of the program in creating a cleaner and healthier environment. Careful planning includes various aspects, from identifying waste problems in the community to formulating strategies that involve all elements of society and the government. In this planning, the local government together with community organizations collaborate to design a structured program, including the arrangement of a waste management system, the provision of supporting facilities such as temporary waste disposal sites (TPS), and counseling on the importance of sorting waste. This was conveyed in the following interview.

"It starts by identifying the main problems in waste management in each village. After that, we conducted socialization to the community about the purpose of this program and its benefits for the environment. We also put together a work plan that includes training in waste sorting, composting, and setting up a waste bank. Furthermore, we allocate a budget for the procurement of facilities such as sorted garbage cans and transport vehicles. Monitoring and evaluation are carried out periodically to ensure that the program runs according to the target", (Informant: RM as the Head of the Environmental Service).

"The first step we see is that the government holds a meeting with residents to explain the Clean Village program. After that, we were invited to determine priorities, such as which areas need to be addressed first. We are also involved in training, for example on how to sort waste and use organic waste for composting", (Informant: OK as a Community).

The government can carry out socialization or direct counseling efforts by gathering the community or visiting each hamlet. Socialization will not be optimal if there is no cooperation between the government and the community and other related institutions. So that to meet the wishes of the community, the government is expected to provide TPS (Sari et al., 2023). Environmental management requires the government to change the paradigm in realizing every policy by prioritizing patterns of partiality to the community, where one of the characteristics is to encourage participation and partnership with the community. So development must involve the community. Without community participation, there will be no strategy that can last for a long time. The role of the community must be seen as dynamic and provide an opportunity for the government to build the country's credibility

through its potential in building coalitions and collective action. Similarly, environmental management is an important factor to achieve sustainable development goals (Jubaedah et al., 2021).

Evaluation of the impact of the Clean Village program in Batang Kuis District is important to assess the extent to which the program contributes to improving environmental quality. This program was initiated to overcome the problem of waste which is often the main cause of environmental pollution. This was conveyed through the following interview.

"The Kampung Bersih programme has brought positive changes. The volume of waste to landfills is decreasing due to waste management at the community level, but there are challenges in sustainability in some areas, which require more facilities and training", (Informant: RK as a Staff of the Sanitation Service).

Based on the description that has been explained, it can be analyzed that the efforts to handle waste management through the planning of the Clean Village program in Batang Kuis District show a systematic and structured approach to improve environmental quality. The initial stage begins with the identification of waste management problems in each village which is the basis for designing programs that are relevant to the needs of the local community. Furthermore, socialization is carried out to increase residents' understanding of the goals of the Clean Village program and its benefits, so that it can encourage active community participation in waste management.

The work plan designed includes training in waste sorting, composting, and the establishment of a waste bank. This step shows the government's efforts to build public awareness and skills in managing waste, especially in utilizing organic waste. Budget allocation is also an important part, such as the procurement of facilities in the form of sorted garbage cans and transport vehicles, which support program operations in the field. The availability of this facility is one of the main factors in ensuring the effectiveness of waste management.

The results of the implementation of the program show a reduction in the volume of waste sent to landfills, thanks to waste management carried out at the community level. This program has succeeded in creating positive changes in residents' habits, especially in sorting waste and utilizing waste productively. However, the sustainability of the program faces challenges, especially in areas that still need additional facilities and training. Periodic monitoring and evaluation continue to be carried out to ensure that the program is running according to the target and identify areas that need improvement. Overall, the Clean Village program is a progressive step in waste management in Batang Kuis District. Although it has brought positive impacts, further efforts are still needed, especially to overcome sustainability challenges and increase community capacity in independent and sustainable waste management.

VII. Conclusion

A. Conclusion

Based on the discussion above, it can be concluded that:

1. The condition of waste management in Batang Kuis District shows several positive developments, although it is still faced with a number of challenges. Waste management in this sub-district is carried out through three main stages including collection, transportation, and disposal to the final disposal site (TPA). However, one of the main obstacles faced is the lack of facilities for sorting waste and public understanding of the benefits of good waste management. This shows that existing education programs are not fully effective in changing people's

- behavior.
2. The role of the Government and related parties in supporting effective waste management in Batang Kuis District by taking strategic steps, namely providing a fleet of waste transporters and building a more organized temporary disposal site (TPS), to facilitate the process of collecting and transporting waste. In addition, the government's involvement in educating the public, especially the younger generation, through educational programs such as the Waste Care School is very important in instilling awareness about the importance of good waste management from an early age.
 3. Efforts to handle waste management through the planning of the clean village program in improving the quality of the environment in Batang Kuis District, identifying waste management problems in each village which are the basis for designing programs that are relevant to the needs of the local community. Furthermore, socialization is carried out to increase residents' understanding of the goals of the Clean Village program and its benefits, so that it can encourage active community participation in waste management. The work plan designed includes training in waste sorting, composting, and the establishment of a waste bank. This program has succeeded in creating positive changes in residents' habits, especially in sorting waste and utilizing waste productively.

B. Suggestion

Based on the results of the conclusions that have been explained earlier, the researcher provides several suggestions, including:

1. Local governments need to provide more special facilities for waste separation at the community level, such as sorted garbage cans in each village. This facility will support the waste sorting process from the source and facilitate advanced management, such as recycling or composting.
2. The Sanitation Service needs to increase the number of garbage transportation fleets and provide more adequate temporary disposal sites (TPS). The use of modern technology in landfills, such as processing waste into energy, can be a solution to reduce environmental impact. Training for cleaners is also important so that they are more skilled in waste management.
3. The community is expected to participate more actively by sorting waste from the source, utilizing waste bank facilities, and participating in environmental activities such as composting training.

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