

# Waste management policies at Bulukumba Regency, Indonesia

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**Abstract.** Waste is still a problem that is often faced in our country, even in regions. The increase in waste volume occurs without awareness of good waste management will certainly bring other problems, especially for the environment. This study aimed to determine the extent how the successful implementation of waste management policies at Bukit Asri Waste Management Site, Polewali Village, Gantarang District, Bulukumba Regency, Indonesia. This research used qualitative method, while the data collection techniques used observation, interviews, and document study with 7 informants. Data analysis techniques used data collection, data reduction, data presentation, and drawing conclusions. The results of the study showed that: 1) The behavior of organizational relations at TPS Bukit Asri has been implemented well. 2) The behavior of lower level implementers has implemented waste management well. This can be seen from 3 aspects, namely organizational control, work ethic and professionalism of the TPS managers. Regarding the organizational control aspect, in this case government supervision of the community's clean living behavior still needs to be improved. 3) The behavior of the target group, namely the community, gave a positive response and supported the waste management policy at TPS Bukit Asri, however education and environmental awareness were still low.

## 1 Introduction

Almost all countries in the world have their own problems within their respective countries, the problems are also varied, for example economic problems, population problems, social problems, culture and environmental problems [1]. In Indonesia, environmental problems are still a major problem. One environmental problem that is still a problem today is the problem of waste [2]. Waste is still a problem that is often faced on a national scale and even on a smaller scale, namely in the regions. The human population which increases every year will certainly produce comparable waste as a result of the remains of human activities [3]. Waste has an impact on health, the environment and socio-economics [4]. Garbage becomes a breeding ground for flies and is favored by

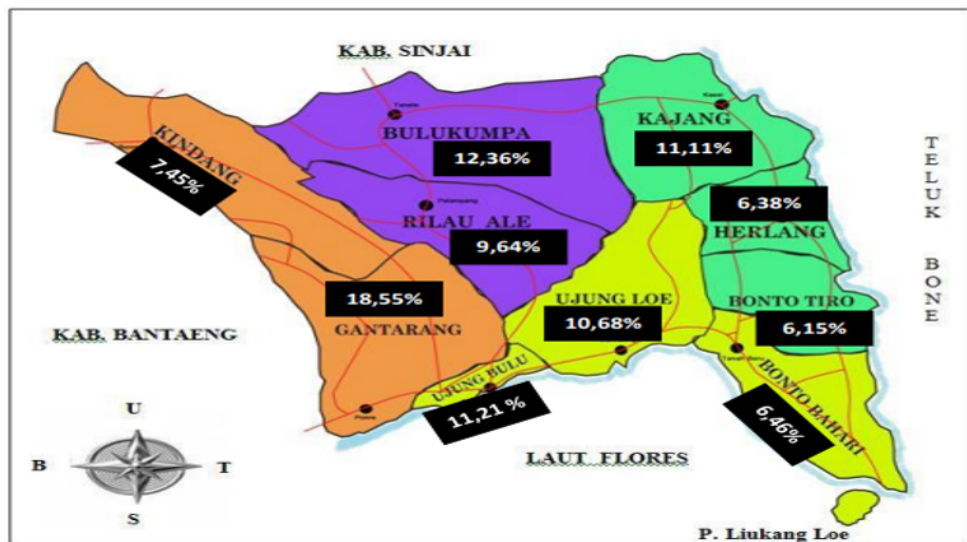
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mice, thus encouraging the spread of infection [5]. The negative impact of this waste is environmental pollution and threatens global environmental health [6]. Trash reduces the quality of the environment, aesthetics are disturbed because of the smell and strewn around [7]. Dumping waste into water bodies results in flooding and increases water management costs. Waste also has an impact on tourism development because waste problems can hinder the development of regional autonomy and reduce the flow of investors [8]. The waste problem is a national problem that requires a comprehensive and integrated management system from upstream to downstream [9].

Human life is never free from the problem of waste because every day humans produce waste. As the population increases and population activities increase, the amount of waste produced every day also increases [10]. The volume of waste and type produced depends on the consumption patterns of a community in an area. The higher the income level of the community, the higher the volume of waste and the more types of waste produced [11]. The increase in waste volume that occurs without awareness of good waste management will certainly bring other problems, especially for the environment [12]. Waste management has become a serious issue at national, regional and international levels [13]. Sustainable waste management planning relies on reliable data on waste characteristics and their variations over the seasons due to the impact of these variations on the environment [14]. Globally, about 85% of collected waste is sent to landfills, including uncontrolled landfills and open dumps, and only 15% of collected waste is recycled [15]. Based on data quoted on the Katadata news page, the amount of rubbish that piles up every hour amounts to 7,300 tons of rubbish, which is the equivalent of a pile of rubbish covering half the height of Monas in one hour [16].

The population of Bulukumba Regency, based on the results of the 2020 Population Census, is 437,607 people, consisting of 213,443 male residents and 224,164 female residents. Compared to the results of the 2010 Population Census, the population of Bulukumba Regency experienced annual growth of 1.04 percent. Meanwhile, the sex ratio figure in 2020, the male population to the female population is 95.2 percent. The population distribution of Bulukumba Regency is still concentrated in Gantarang District. With a geographic area of 15 percent of the Bulukumba Regency area, Gantarang District is inhabited by 81,173 residents or 18.55 percent of the Bulukumba Regency population. The second largest population distribution is in Bulukumpa District with a population of 54,087 residents or 12.36 percent. Meanwhile, Bontiro District is the district with the smallest population, namely 26,920 people or 6.15 percent of the population of Bulukumba Regency (see Fig. 1).



**Fig. 1.** Population distribution of Bulukumba Regency by region in 2020.  
Source: Central statistics agency of Bulukumba Regency.

By looking at the population growth rate in Bulukumba Regency which continues to increase which is proportional to the increase in community consumption and community life activities in Gantarang District especially in the densely populated area of Polewali Village causing an increase in the volume of waste and increasingly diverse types of waste. The environmental conditions in the area cannot be said to be healthy and clean because there are still many piles of rubbish on the side of the road and on empty land. This is due to the nature of local people who are “very stupid” when it comes to waste and leave it entirely to the cleaning crew. This household waste problem poses a serious threat if it is not managed properly and correctly. For example, when the rainy season arrives, water channels will become blocked due to littering and cause flooding in urban areas. This problem is still a major factor in waste management in this environment. On the other hand, waste is the result of human activity and everyone needs to have a good understanding of waste management issues. In 2015, the United Nations Environment Program declared a global waste challenge to monitor waste risks and crimes [17]. This must be corrected so that in the future the problem of waste sorting can be addressed from below or at the source.

Therefore, the Polewali Village government is moving to overcome the existing waste problem. One of them is by receiving social assistance from the Waste Management Site (TPS) program of the Ministry of Public Works and Public Housing. The concept of hierarchical waste management has been on the global agenda for almost 40 years, but has only received attention in the last decade [18]. Waste management here is the government's responsibility in the form of services, namely by making policies regarding waste management [19]. It aims to protect human health and the environment through waste prevention and by reducing related impacts [20].

The following is an illustration of population growth in 21 villages in Gantarang District. Which shows that Polewali Village is the second most populous village after Paenre Lompoe Village with 5290 people (see Table 1).

**Table 1.** Population in Gantarang District, Bulukumba Regency.

<b>Villages</b>	<b>Men</b>	<b>Women</b>	<b>Total</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
Mario Rennu	2.277	2.334	4.611
Jalanjang	2.438	2.666	5.104
Mattekkko	1.864	2.063	3.927
Paenre Lompoe	2.569	2.795	5.364
Bialo	1.445	1.648	3.093
Bonto Macinna	2.102	2.441	4.513
Bontomasila	1.388	1.586	2.974
Padang	1.722	1.958	3.680
Barombong	790	950	1.740
Bonto Sunggu	1.152	1.329	2.481
Polewali	2.671	2.619	5.290
Palambarae	1.880	1.961	3.841
Bukit Tinggi	1.268	1.378	2.646
Bontonyeleng	1.566	1.636	3.202
Bukit Harapan	1.352	1.507	2.859
Dampang	2.039	2.320	4.359
Bontoraja	1.845	2.023	3.868
Benteng Gattareng	1.509	1.702	3.211
Gattareng	1.966	2.208	4.174
Benteng Malewang	1.253	1.462	2.715
Taccorong	1.167	1.161	2.328
<b>Gantarang</b>	<b>36.263</b>	<b>39.717</b>	<b>75.980</b>

Source: Central statistics agency of Bulukumba Regency.

Heavy human activity places significant pressure on the natural environment, resulting in population and environmental difficulties. Difficulties related to environmental conditions and population density include the expansion of settlements, scarcity of employment opportunities, shortages of food and education, and a decline in the quality of health. Another undeniable challenge related to population growth and environmental quality is the increasing amount of waste generation, which leads to the emergence of new challenges such as pollution, climate change, depletion of natural resources, and other related problems.

Changes in consumption patterns and lifestyles, as well as population growth, have increased the capacity of waste in various forms in the natural environment. Increasing population consumption, to fulfill basic needs and support economic activities, also contributes to the quantity and quality of waste produced. Inadequate waste management processes that fail to comply with appropriate means and environmental impact analysis will have a negative impact on public health and disrupt environmental sustainability. Based on this, the Bulukumba Regency Government has issued a policy in the form of: Bulukumba Regent Regulation No. 66 of 2017 concerning waste management with the 3R concept: Reduce (reducing waste), Reuse (limiting waste accumulation) and Recycle (recycling waste or reusing waste). The effectiveness of the implementation of this policy will be seen at several TPS established to manage waste. TPS (Waste Management Site) Bukit Asri is one of the TPS located in a densely populated area, namely Polewali Village.

The environmental condition in the area cannot be said to be healthy and clean because there are still piles of rubbish on the side of the road and on empty land. This is due to the "apathetic" nature of the local community regarding waste matters and leaving it completely to the cleaning crew. This household waste problem is a serious threat that requires serious attention from the government and society. Floods are disasters that often occur when the rainy season comes due to the behavior of people who throw rubbish carelessly. Even though the government has issued a waste management policy, the community also plays an important role in efforts to manage waste well so that in the future the problem of waste sorting can be addressed from below or at the source.

Waste management policy is a form of government service in overcoming waste problems [19]. The mandate of Law Number 18 of 2008 concerning waste states that it is an obligation for the Government and regional governments to ensure that good and environmentally sound waste management is implemented to improve public health and environmental quality and to use waste as a resource. Thus, waste management should be carried out based on the principle of responsibility, the principle of sustainability, the principle of benefit, the principle of justice, the principle of awareness, the principle of togetherness, the principle of safety, the principle of security and the principle of economic value. With the enactment of Law Number 18 of 2008, the most important substance in waste management is that all district/city governments must change the waste disposal system to a waste management system [21]. The existence of a policy regarding waste management does not yet determine that waste management can be managed well, where it is not uncommon to find that agencies tasked with handling waste are less able to deal with waste problems, resulting in ineffective waste management and can have a negative impact on health and the environment [22]. The successful implementation of government policies regarding waste management must

involve all elements of both government and society. So community participation in waste management is an important aspect to pay attention to in an integrated waste management system. Coordinated governance between levels (i.e. multi-level governance) will be necessary as complementarities spread, with increasingly diverse voices of actors participating in energy system decision-making [23].

Waste management policies involving the community will be more effective if they are only dominated by government actors [24]. From a policy perspective that involves the community, there are advantages, where the community enjoys a clean environment and can also gain benefits as a livelihood. The government as the person responsible can reduce waste management costs due to community involvement while also opening up space for the creation of new jobs. For example, in Norway, the Norwegian government allows temporary changes to landfill permits and allows waste to be transported to other places to handle the waste [25]. In the process of resolving this waste problem, there needs to be real action from all parties. Everyone wants to live in a safe and healthy environment and the world is united for a clean and harm-free environment [26]. Promoting eco-living principles such as the policy of using environmentally friendly shopping bags and product packaging, as well as 3R (Reduce, Reuse and Recycle) has proven that there are government efforts regarding waste management, although they need to continue to be improved. These principles have been expanded over time by adding the "Recovery" principle [27].

However, the facts show that waste management is experiencing problems in almost every region, the regional government is still dominant and community participation has not been maximized and even seems neglected [25]. Appropriate policies with community involvement from formulation to implementation are able to answer environmental and waste problems [28]. Communities as citizens who live side by side with the environment have the greatest interest in environmental sustainability and waste management so that they can live with a good level of environmental health [29]. The negative impact of waste is environmental pollution and threatens global environmental health [6]. Based on this, the Bulukumba Regency Government has committed to managing waste well. Birth Bulukumba Regent Regulation Number 66 of 2017, The Bulukumba Regency Household Waste and Similar Waste Management System regulates planning, implementation, control, guidance and supervision as well as the distribution of roles between OPDs (Regional Apparatus Organizations) in the management of household waste and similar household waste.

Implementation of the waste management policy is realized by establishing TPS in several locations, including the Evidence Asri TPS in Polewali Village, which is a densely populated area. The establishment of the TPS Bukit Asri in Polewali Village aims to reduce the volume of waste which increases every time, especially household waste.

The Waste Management Sites (TPS) that have been established in Bulukumba Regency can be seen in Table 2.

**Table 2.** Waste Bank in Bulukumba Regency.

No	Name of Waste Bank	Address/Location
1	Mandiri Gadde Waste Bank	Loka
2	BKM Berlayar	Ela Ela
3	TPS Bukit Asri	Polewali
4	TPS Zanur	Polewali
5	TPST & 3R DLHK	Polewali
6	Adi Sajaya	Taccorong
7	Borong Paoe	Paenre Lompoe
8	Tiara Tujuh	Polewali
9	TPA Borong Manempa	Paenre Lompoe

Source: [portal.nawasis.info](http://portal.nawasis.info)

However, based on the results of the researcher's initial observations regarding the waste management policy regulated in Bulukumba Regent Regulation No. 66 of 2017 has so far not been implemented according to the government's expectations, resulting in negative impacts on the environment and public health. This research tries to explore further the commitment and coordination between organizations, the behavior of policy implementers and the behavior of target groups (Target Behaviour).

## 2 Literature review

There are several previous research results that are relevant to this research, the first is from Fiona and Bruno with the research title "Assessing potential of plastic waste management policies for territories sustainability: case study of Reunion Island". The results highlight the lack of transversality of some policies as well as the inadequacy of their applicability or efficiency in an island environment. The importance of the diagnostic scale is pointed out, especially in elaborating territorial policies on waste management. The cross reading of the territory's needs and the potential of the nature of the waste, such as plastic, allowed to propose a new management plan wishing to answer the territorial challenges and stakes, such as those of Reunion Island [30].

Second, Maoliang and Lin with the research title "Incentivizing household recycling crowds out public support for other waste management policies: A long-term quasi-experimental study". The results of this research showed that despite its positive influence on residents' self-reported recycling behavior, the program reduced support for policy measures concerning waste prevention and harm-less disposal. Consistent with the theoretical propositions, such crowding-out was driven by the decrease in personal commitment to pro-environmental goals, perceived issue importance of environmental sustainability, and perceived importance of individual contribution to environmental

goods. Further evidence suggests that the crowding-out effect attenuated but did not disappear in the long run. These findings contribute to a more comprehensive understanding of the holistic relationships between waste management policies, indicating that incentive-based recycling policies can interact negatively with other waste policies by reducing public support for them [31].

Finally, research conducted by Delufa et al. with the research title “An overview of progress towards implementation of solid waste management policies in Dhaka, Bangladesh”. The results of this research showed that several action plans have been introduced yet not all of those have proper implementation like adhering the waste segregation and recycling practices from households to landfill level. Lack of monitoring and coordination among the existing policy implementing agencies have emerged as significant concerns in Bangladesh [32].

The previous studies above have similarities with this research, namely; 1) The research focus is the same, namely waste management policy. 2) The type and method of research approach used qualitative descriptive methods. 3) Choosing the community as informants because of the community which is the object of receiving public services in the waste sector. There are differences between previous research and this research namely theory used in previous research is implementation theory Model George C. Edward III, while the theory used in this research is Soren C. Winter’s implementation theory. This research is interesting because it will examine and analyze the effectiveness of implementing waste management policies at the TPS Bukit Asri. Apart from that, to find out what factors hinder the implementation of the policy.

To see how themes related to waste have become a global issue that is always interesting to be studied and discussed by world researchers, the following will show the results of the extraction of 950 scientific journals for the period 2018-2023 which were explored through the PoP application using the keywords: waste management; waste policy; household waste; collaborative governance; Reduce, Reuse and Recycle which are then processed in the Orange application.





Qualitative data analysis was also carried out using N-Vivo 12+. The data validity technique used by researchers is triangulation, Source Triangulation, Engineering Triangulation, Time Triangulation.

## **4 Results and discussion**

The implementation of the Waste Management Policy at the TPS Bukit Asri , Gantarang District, Bulukumba Regency would not be possible if it only relied on the government without community participation. Therefore, the implementation of this waste management policy can be said to be successful and realized if the community and government synergize and are able to work together in terms of waste management so that the objectives of the policy can be achieved. To measure the performance of policy implementation, of course it is necessary to determine the targets or results that policy implementers want to achieve. Like the goals to be achieved in the waste management policy, namely creating a clean and healthy environment and also reducing waste or household waste by establishing TPS in densely populated settlements, the goals and targets of the policies implemented must be measured and monitored because implementation may not be successful or experience failure if the goal is not considered successful, and also monitoring the implementation of this waste management policy must be carried out by the relevant parties so that its implementation can be controlled and reviewed to see whether this waste management policy is on target and has succeeded in achieving the goals to be achieved.

The waste management policy in Bulukumba Regency is contained in Bulukumba Regent Regulation No. 66 of 2017 as the basis for waste management. Based on the contents of the Regent's Regulation, the government plans waste management through waste reduction and handling, where the Government targets the provision of facilities and infrastructure for waste reduction and handling from the source to the landfill, as well as the need to provide financing borne by the regional government and the community so that the government can carry out and realizing this policy for the community so they can see how effective this Regent's Regulation is in reducing and dealing with existing waste problems.

The findings of this research are data and facts that researchers obtained in the field. In assessing the success of implementing waste management policies at the TPS Bukit Asri .By looking at existing phenomena and problems, researchers used a theory developed by Soren C. Winter which consists of three indicators that really determine the success of implementing a policy, namely as follows:

### **4.1 Interorganizational relationship behavior**

The implementation of public policy to achieve maximum results rarely takes place with one's own group, without collaborating with other agencies/organizations as supporters. Policy implementation requires inter-organizational relationships to bring about more collaborative policy changes and the dimensions are inter-organizational commitment and coordination. The intended commitment is a joint agreement with the relevant

agencies in maintaining organizational stability and existing inter-organizational networks, in relation to program implementers [34].

Talking about Organizational Commitment, researchers conducted an interview with the Chairman of KSM (Community Self-Help Group) Puri Asri who said that:

“... From the beginning this TPS was established, we have been committed to the Bulukumba Regency Spatial Planning Service to build, manage and run this TPS from the PUPR Ministry's APBN ...” (Results of interview with AH on May 20, 2022).

To find out Written Commitment, researchers interviewed the Secretary of TPS Bukit Asri regarding organizational commitment as follows:

“... Commitment to TPS from the start began with the signing of a cooperation agreement for a community-based TPS procurement program. Between the first party, namely the Bulukumba Regency Spatial Planning Service and the second party, namely the Chairman of KSM Bukit Asri, whose aim is to utilize social assistance funds from the PUPR Ministry's APBN ...” (results of an interview with AA on May 22, 2022).

Meanwhile, to find out Organizational Coordination, researchers conducted an interview with the Chairman of KSM Bukit Asri:

“... Until now we continue to coordinate with the Spatial Planning Service every month with the aim of receiving salaries or wages for our workers amounting to Rp. 1,300,000 every month. Because here we are not yet able to provide salaries for the workers. This has also been regulated from the start in the MoU or work agreement which has been ratified ...” (results of interview with AH on May 20, 2022).

Regarding waste management facilities, the Chairman of KSM Bukit Asri said that:

“... Because now waste management is the domain of the Bulukumba Regency Environment and Forestry Service (DLHK), I as chairman of KSM Bukit Asri continue to coordinate with DLHK regarding deficiencies in this TPS such as increasing the number of workers and also adding waste management equipment facilities because now the number of workers just 2 people is not comparable to the volume of waste we want to manage ...” (results of interview with AH on May 20, 2022).

Based on the results of the interviews above, it can be concluded that the TPS Bukit Asri has carried out commitment and coordination between organizations or agencies responsible for waste management. So the first indicator, namely the behavior of relationships between organizations, was successfully carried out by the Bukit Asri Community Self-Help Group (KSM) in planning, building, managing and running the TPS Bukit Asri so that it could manage waste in the surrounding area so as to create a clean and healthy environment.

In accordance with Soren C. Winter's theory, the implementation process can be implemented in many ways. One way is that policy implementation can be fulfilled in an organization. However, for implementation performance to be more efficient and effective, it requires collaboration and coordination with various organizations, or parts of those organizations [35].

## **4.2 Lower level implementor behavior**

One of the factors for the success of implementing waste management policies at TPS Bukit Asri is the behavior of lower level implementers whose dimensions are political control, organizational control and work ethic and professional norms.

Talking about organizational control, work ethic, and work professionalism, the researcher conducted an interview with the chairman of KSM Bukit Asri as follows:

“... Regarding control over this organization, I as chairman continuously control the performance of my members, both in terms of collection and waste management at this TPS. Because I am fully responsible for community satisfaction regarding waste management at my TPS. So in my opinion, as chairman, it is very important to control the performance of my members so that the performance of my TPS can continue to improve in the future ...” (results of interview with AH on May 20, 2022).

There is an interview about how to monitor the implementation of waste management policies at TPS Bukit Asri:

“... here we as program implementers certainly admit our weaknesses regarding the issue of implementing waste management policies, indeed they have been implemented and implemented, but supervision from the government and related agencies is still weak, there is no follow-up to monitor the development and progress of this TPS, resulting in limited waste management facilities and infrastructure here ...” (results of interview with AH on May 20, 2022).

Then, researcher asked about the work ethic at TPS Bukit Asri as follows:

“... in terms of work ethic or guidance in working at this TPS, I feel that waste management work is still considered a job that is not prestigious in society because it is related to waste. But on the other hand, I believe that this work is a noble task, because on the other hand it helps reduce the volume of waste here, this TPS also generates income from the sale of used goods such as boxes, bottles, etc. And also from the beginning the inauguration of this TPS was not intended to seek personal gain but for the common good, namely the cleanliness and health of the surrounding environment ...” (results of interview with AH on May 20, 2022).

Next, the researcher asked about professional norms at the TPS Bukit Asri as follows:

“... as Chair of the TPS, in my opinion wherever we work we must show a professional attitude. Just like in waste management, what we think about is only the waste being managed, but in our work we have to be professional too. Here, as chairman, I really emphasize discipline towards my members because if the trash pickup is delayed for 2 or 3 days, an unpleasant odor can emerge from the trash cans in the community. And this could lead to public complaints about the performance of the TPS Bukit Asri. As well as regarding professionalism from the start, my members have been given an understanding and learning about how to manage waste, from picking up, separating, until the waste composting process ...” (results of interview with AH on May 20, 2022).

Based on several interviews above regarding the behavior of lower level implementers related to aspects organizational control, work ethic, and work professionalism, researchers can conclude that these three related aspects have been carried out and carried out by the TPS Bukit Asri management, because the implementation has been carried out according to existing rules, SOPs (Standard Operating Procedures) such as work rules that have been previously determined. and has been understood and understood by members of TPS Bukit Asri in carrying out waste management.

As stated Lipsky in Angraini Parawangi, the behavior of lower-level implementers works in situations characterized by various societal needs. They try to overcome and control problems and make policy priorities based on community perceptions or needs, and also describe the behavior of lower level implementers as “positions that relate directly to the community” [36].

Lower-level implementers in waste management are individuals who are directly involved in carrying out daily tasks related to waste collection, transportation, management and processing. They are officers, workers at the TPS Bukit Asri whose job is to carry out the policies and programs set by the government. These lower-level implementers are at the forefront of waste management and have an important role in maintaining environmental cleanliness and creating more sustainable waste management practices. The tasks of lower level implementers in waste management can include various activities, such as:

- **Garbage Collection:** They are responsible for collecting trash from households, businesses, and public places using garbage trucks or other waste collection vehicles.
- **Garbage transport:** After collecting the waste, they transport it to an appropriate landfill or waste processing facility.
- **Waste Separation:** In some places, lower level implementers also have to separate organic and non-organic waste, as well as materials that can be recycled.
- **Environmental Cleaning:** They can be involved in cleaning streets, parks and other public areas to avoid littering.

The role of lower level implementers is very important in maintaining a clean environment, preventing environmental pollution, and supporting sustainable waste management practices. They often interact directly with communities and have a significant impact on how waste management is carried out in daily practice. Therefore, good training, supervision and motivation for lower level implementers are important aspects in the success of waste management programs.

Based on the results of interviews, it is known that the behavior of lower level implementers in implementing waste management policies in Polewali Village, Gantarang District, Bulukumba Regency is influenced by three important aspects: political control, organizational control, and work ethic and professional norms. The following is an explanation of these three aspects:

Political control covers the way the government, both at the local and national level, regulates and supervises the implementation of waste management policies. This includes regulations, laws, and policies issued by the government. Based on findings in the field, implementers at lower levels such as janitors and waste collection officers are trying to implement policies issued by the Government. Political control can encourage or inhibit

implementor behavior, depending on the extent to which existing policies support sustainable and efficient waste management.

Likewise, with organizational control, where the institution or organization where the implementers work supervises their duties in waste management. Based on research findings, the monitoring component by the Environmental Service and Public Works Department, Public Housing, has not been implemented optimally so that rubbish is still found strewn about, littering in rivers and empty land. Weak guarding creates inconvenience for local residents and can damage the aesthetics of the environment. To avoid these negative impacts, it is important for the government and related organizations to ensure strict and efficient supervision in waste management. This includes implementing clear regulations, supporting environmental education for the public, and encouraging sustainable waste management practices.

Apart from that, the third component in describing the behavior of lower level implementers is work ethic and professional norms, which refers to the values, ethics and standards applied. This is related to the commitment of cleaning officers and waste collection officers to improve the quality of work, understand responsibility and behave ethically by complying with waste management procedures. In waste management at the TPS Bukit Asri, lower level implementers show good commitment.

In the context of waste management, effective behavior of lower level implementers requires support from all three aspects. Strong political control in the form of pro-environmental and sustainable regulations can provide clear direction. Good organizational controls, including sufficient training and resources, can help implementers implement policies. Meanwhile, a positive work ethic and high professional norms will encourage them to play an active role in maintaining a clean and healthy environment. Collaboration between governments, organizations and individual implementers is very important to achieve successful waste management.

### **4.3 Target group behavior**

The most important factor in the successful implementation of the Waste Management Policy at the TPS Bukit Asri is the behavior of the target group. The behavior of the target group not only influences the effect or impact of policies, but also influences the performance of lower level officials. If the impact is good then the performance of lower level officials is also considered good, and vice versa. Target group behavior includes positive and negative responses from the community in supporting or not supporting a policy, accompanied by feedback in the form of the target group's response to the policy being made.

To find out the community's response regarding waste management policies at the TPS Bukit Asri, researchers conducted interviews with the surrounding community:

“... As a member of the community, I am greatly helped by the daily door-to-door trash pickup so that I no longer have to worry about where to go to throw away the trash. And a little input for the trash pickup officers, please come every 2 days because if the trash has been in the place for a long time it will cause an unpleasant smell ...” (results of interview with MR on June 8, 2022).

Next, the researchers conducted interviews with other residents whose waste was also managed at the TPS Bukit Asri:

“... by having waste management here I feel helped because in this housing complex it is very difficult to find a large waste disposal site. If there is anything, it's just random rubbish bins that are not managed but continue to pile up so that they can create an unhealthy environment ...” (results of interview with NR on June 8, 2022).

Then, the researcher interviewed the Hamlet Head about the performance of the TPS Bukit Asri as follows:

“... very helpful in answering the waste problem here. However, in the future, please add more members so that trash pickup is not delayed. Because if the pickup process is delayed, tens or even hundreds of residents' trash cans will be full, causing an unpleasant smell. And I also suggest that new rubbish bins be distributed to residents because on average many rubbish bins here have disappeared and are old due to age ...” (results of interview with AS on June 12, 2022).

From the results of the interviews above, it can be concluded that the community has responded positively to government policies regarding waste management. The community feels helped by the preparation of waste disposal facilities. However, these facilities are still limited, so there are complaints from the public about the accumulation of waste.

Based on the results of an interview with the chairman of KSM TPS Asri, in general the community gave a positive response to sorting organic and non-organic waste. However, environmental education and awareness are still low. This can be seen from the fact that people often throw rubbish carelessly on the road or in the environment around them. Apart from that, Reuse, Reduce and Recycling have not been fully implemented by the people of Polewali Village.

The behavior and attitudes of individuals and communities in waste management are very important to create a cleaner and more sustainable environment. Education, awareness and collective action can help turn negative responses into positive ones and encourage better waste management practices.

As explained by Winter in Rahmawati, the target group behavior variable in implementing public policy is a group of people, organizations or individual service recipients who play a role not only in terms of policy impact, but also in influencing program implementation performance through positive and negative actions. Thus, program implementation performance is greatly influenced by the characteristics of community participation, whether they support or reject it [35].

In the implementation of a policy, obstacles and obstacles are often found in its implementation, resulting in the objectives of the policy not being achieved. The following is an interview regarding the factors inhibiting waste management at TPS Bukit Asri:

“... in my opinion, one of the obstacles in waste management is the awareness of the community itself where some residents here do not comply with the policies or regulations that have been set by the government. People still often throw rubbish everywhere even though we have prepared rubbish bins. So my hope in the future is



that the community can work together not to throw rubbish everywhere so that it can help us in reducing and managing rubbish in the surrounding environment ...” (results of interview with AH on May 22, 2022).

Based on the results of interviews with the informants above, the researcher concluded that the cause of the problems in waste management at the TPS Bukit Asri is apart from limited facilities and infrastructure, another factor is the community itself, namely the lack of public awareness to change their lives in handling waste so that people continue to throw rubbish in any place. Even though rubbish bins have been provided, people still throw rubbish carelessly (see Fig. 3).



**Fig. 3.** Garbage has piled up in the canals or waterways of Polewali Village, Gantarang District, Bulukumba Regency, South Sulawesi.

Next, the researcher interviewed the TPS Secretary of Bukit Asri regarding the obstacles in waste management:

“... in my opinion, the lack of facilities and lack of supervision of the implementation that has been made means that waste handling is not running optimally, coupled with the problem of minimal public awareness, this adds to the problems in waste management at TPS Bukit Asri...” (results of interview with AA on May 22, 2022).

Based on the results of interviews with the informants above, the researchers concluded that weak supervision carried out by the government and agencies related to the implementation of waste management policies at the TPS Bukit Asri caused the accumulation of household waste to increase very quickly, thereby causing the process of environmental pollution to also increase. Population growth which increases every day causes an acceleration of waste recycling activities which will disrupt the environmental health of the surrounding community because apart from the unpleasant smell, the waste is often infested with flies which can cause disease. Apart from that, there is a lack of waste transportation facilities so that rubbish piles up. As stated by the head of the TPS Bukit Asri Operational Division as follows:

“... in the waste collection activity, the obstacles or problems that I experienced were that there were residents who wanted to have their waste picked up but did not pay the monthly fee, as well as operational motorbikes that sometimes broke down, which was the main problem for me. Because at this TPS there is only 1 motorbike that is still running. So if this motorbike breaks down or is damaged then the trash pickup will definitely be neglected and cause a buildup of rubbish in people's homes. So in



the future I hope that the government and related agencies will pay more attention to existing TPS. To meet the needs and deficiencies at each polling station, especially the TPS Bukit Asri ...” (results of interview with MU on June 8, 2022).

After conducting research and interviews with several informants, researchers can conclude that the policies implemented have been implemented at the TPS Bukit Asri because they saw the handling of community waste managed by the Bukit Asri Community Self-Help Group (KSM) which was formed from several local communities who have collaborated and coordinated with The Bulukumba Regency Spatial Planning Service every month aims to receive payments or salaries for workers at the TPS Bukit Asri , but there is still weak supervision and control from the Government and the Department regarding the implementation of waste management policies so that waste handling is still not optimal as indicated by the lack of facilities and infrastructure. waste management at the TPS Bukit Asri and the limited human resources working at the TPS Bukit Asri. This is due to limited funds at the TPS so assistance is expected from the Regional Government or Related Services to be able to provide solutions to the problems experienced at the TPS.

## 5 Conclusions

- **Government Commitment:** Success in waste management is highly dependent on the government's commitment to implementing policies and programs that support waste reduction, management, and recycling. Governments have a key role in setting the legal framework, allocating resources, and facilitating sustainable approaches. Birth Bulukumba Regent Regulation No. 66 of 2017 shows that there is good communication and coordination between government agencies in solving the problem of waste generation.
- **Behavior of Officials at Lower Level:** The role of government officials at the local level is very important in implementing waste management programs. They must be a good example in complying with the rules, including waste segregation, waste management, and reducing littering. Officials at lower levels must also understand and support the government's vision for sustainable waste management. Based on the research results, it is known that in the behavioral component of lower-level officials, the supervision aspect in waste management, especially at the TPS Bukit Asri, has not been implemented effectively.
- **Community Attitude:** Community attitudes have a significant impact on the success of waste management. People who are environmentally aware, respond positively, and actively participate in recycling and waste reduction practices play an important role. Education and environmental awareness are the keys to changing people's attitudes to be more environmentally friendly in waste management. Based on the research results, it is known that the community's positive response is still limited to knowing and responding positively to waste management policies, however implementation is still weak, education and environmental awareness still need to be improved.

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