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## **Grassroots-Based Waste Management: Implementation of Financial Management**

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### **Abstract**

The implementation of this Community Service (PKM) activity is a form of attention and participation of academics related to critical issues of waste management with the theme of Grasp-Based Waste Management: Implementation of Financial Management. The goal is an effort to help increase awareness, participation and cooperation in dealing with the waste problem, with the aim of recreating high awareness to participate and cooperate in the implementation method of activities, adapting the observation approach, socialization at the implementation and evaluation stages. Results of the activity. This KKM activity offers three main activities. First, socialization of grassroots-based waste handling; Second, a healthy living culture by paying attention to shopping and consumption behavior; Third, the implementation of Financial Management with economic behavior. The implication is that in the future, similar follow-up activities are needed to support the realization of zero waste and zero residue programs for clean and waste-free living by applying a scientific approach in the implementation of financial management at the individual family level, accompanied by adapting and integrating technology that allows the involvement of various related parties in a continuous manner in waste management among the community.

**Keywords:** Waste management, grassroots; economic behavior, financial management; zero waste and zero residue

### **Introduction**

Population growth and changes in consumption behavior that are increasingly rich in organic and non-organic waste content can have an impact on the amount of waste produced, including plastic and paper waste (Hadi et al., 2024). The waste that is thrown away by the community every day comes from household waste, markets and waste that comes from the activities of individuals, families and communities in the Gading area, Sukabumi City. This has the potential to generate waste, as well as potentially add to the long list of waste problems and their endless handling (Masbullah et al., 2023). The problem of waste generation is a classic problem in various regions, even in the wider global environment that requires awareness,

attention, and serious cooperation from various parties to be involved in overcoming it (Firmansyah et al., 2023). One form of waste is domestic waste which is one of the household activities that leaves domestic waste on community waste (Kappy et al., 2023). The increase in domestic waste is in line with the development of physical development, and the increase in the improvement of adequate facilities and infrastructure (Triwuri et al., 2019).

Based on the “SK SNI in 1990”, waste is solid waste consisting of organic substances and inorganic substances that no longer have economic value. According to “Undang-Undang Republik Indonesia No. 18 Tahun 2008” concerning waste management, there needs to be maximum waste management (Ambina, 2019). Waste management efforts can be carried out by means of Reuse, Reduce, and Recycle (3R) which is an activity to treat waste by reusing, reducing and recycling (Subekti, 2010). The waste management system, especially in urban areas, must be implemented appropriately and systematically. Therefore, the involvement of various parties is needed to develop the management and handling of these two types of waste, both by handling sorting, collecting, transporting, restricting the use of plastic bags, transportation, waste banks to Reduce, Reuse and Recycle Waste Processing Sites (TPS3R) (Firmansyah, Suryana, Rifai, et al., 2024), and various other types of waste management innovations (Firmansyah et al., 2023). Although it is recognized that public authorities through related departments and units have succeeded in managing and reducing waste problems as a waste management program that continues to be developed (Firmansyah, Suryana, Rifa'i, et al., 2024). However, the development of waste management must still be socialized to the community and the household environment as the largest waste producer (Firmansyah, Suryana, Rifai, et al., 2024).

In practice, waste management activities will involve the use and utilization of various waste facilities and infrastructure including containerization, collection, transfer, transportation by “Dinas Lingkungan Hidup (DLH); officers from the Environmental Service (DLH)”, processing or final disposal. This waste problem is very closely related to the lifestyle and culture of the community itself. The waste problem is not only a matter of the local government but also should have become the obligation of the surrounding community to be responsible and participate in waste handling (Pramita, 2023). Because, most of the waste in the community environment is generated from the waste of individuals and surrounding families.

Therefore, grassroots-based waste management initiatives still need to be carried out, which must start from the bottom fundamentally by means of a participatory approach and awareness of individuals and families as dominant waste contributors in society, by implementing a healthy, realistic lifestyle in shopping behavior and its correlation with consumption patterns in the modern era. Patterns like this at a certain level of achievement in the perspective of finance economically in relative assessment reflect the implementation of financial management of individual families in line with their hidup style (Kinanthi et al., 2023). This condition underlies the initiation of critical thinking, pro-active and participatory behavior of the Service Team to carry out Community Service (PKM) with the theme "grassroots-based waste management: implementation of family financial management". PKM partners are currently residents of the Gading Sukabumi community, coordinating with the management of the TPS 3R around.

Referring to the results of our observations, there are several problems that we found and must be addressed. The main problem is the problem of handling waste management. Waste management is part of hygiene management. There are three things that must be considered in waste management, namely the identification of the condition of the existing waste management system, a good and correct definition in terms of waste management, and a pattern of coaching and development policies. On the other hand, the massive change in shopping behavior patterns has an impact on consumption patterns that are imprinted and loaded with the occurrence of waste (organic and nonorganic), as well as the habit of throwing waste without first sorting between organic and non-organic waste, causing the creation of a good and healthy environment, even resulting in piles of waste that have been decomposing for a long time. Even though the election is basically at the 3R polling station level, the management will do the sorting. However, if individual families can get used to doing this, of course, it can help handle waste by TPS 3R and reduce the burden on landfills (TPA; “Tempat Pembuangan Akhir”).

## Method

The method of implementing Community Service (PKM) activities adapts the observation and socialization approach to enable training according to the theme, implementation stage of activities and evaluation (e.g., Budiarti & Firmansyah, 2024; Firmansyah, Suryana, Rifa'i, *et al.*, 2024; and Susetyo *et al.*, 2023). the results of the observation, information was obtained related to the team looking at the conditions, habits and methods of handling waste carried out by individual families in the surrounding community area. The conditions of waste management in PKM partner areas are as follows:

Table 1. Existing Community Conditions in Waste Management and Disposal

Garbage Collection	Garbage Transportation	Final Disposal of Waste
The waste collection system in the area is quite effective, but there are still some people who are still low on how to dispose of garbage, such as throwing it and letting it scatter until it comes out of the TPS 3R area or temporary waste collection (for example, non-official TPS). Lack of participation and awareness of residents to select organic waste with non-organic waste before the waste is disposed of at the polling station.	According to a certain schedule, the transportation of waste from TPS 3R to the landfill is still being carried out. However, the waste transported still contains a lot of non-organic waste so that it does not reflect the realization of zero waste and zero residue behavior.	The final process of waste management, namely the final disposal of waste is at the landfill. However, the accumulation that occurs is inseparable from the contamination of waste disposal per region through TPS 3R or other forms of waste accumulation. Order and discipline of individual families in reducing waste is one of the roots.

Based on the results of the situation analysis (table 1), the implementation of this PKM offers three main activities, namely: 1) Socialization of grassroots-based waste management; 2) Healthy living culture by paying attention to shopping and consumption behavior; and 3) Implementation of Financial Management with economic behavior.



Figure 1. Observation and Coordination with TPS 3R Management and PKM Partners

## Results

Referring to the data and discussion above, this waste management is to carry out three main stages of activities, namely: 1) Socialization of grassroots-based waste management; 2) Healthy living culture by paying attention to shopping and consumption behavior; and 3) Implementation of Financial Management with Economic Behavior.

## Implementation of Activities

### 1. Socialization of Grassroots-Based Waste Handling

Socialization is an important stage in this activity, which was attended by 23 residents of the surrounding community who are the main partners of this PKM and are predominantly attended by housewives. The implementation of the activity was held on weekends, to be precise on Saturday in four meetings during PKM activities. However, this socialization is not a place to "teach or educate" because the modern era society knows very well what should be done in a simple way at the family level as one of the roots of the most waste producers, in an effort to reduce the waste problem", because historically many related parties have often educated and socialized about the waste problem and its handling. Therefore, the socialization according to the theme of PKM is an intervention with the goal of helping to increase awareness, participation and cooperation in dealing with the waste problem starting from the level of houses in the community as the dominant "grassroots" of waste producers in relative assessment among the community. Where, the goal is to recreate a high awareness to participate and cooperate to reduce waste problems starting from individual households even in simple ways by applying a culture of selective behavior to meet the consumption and disposal of waste that may arise from the fulfillment of household needs.

The content and issues of the socialization are to convey information about handling that emphasizes the importance of repeated awareness related to participation in reducing waste problems that must start from individual households. Because the waste problem is an endless

classroom issue in society, so the handling can actually start from a simple stage which is also a classic handling model as well.

- a. Reduce the use of products that use plastic packing/containers or other hard-to-decompose materials, of course according to the criteria of the type of product, storage standards and safety.
- b. Selective behavior in meeting household needs, especially for products that are inherent in non-organic waste. If shopping for products in limited quantities with the size and purpose of shopping to meet daily household needs, it is better to cultivate the culture of bringing packing/bags from home so that there is no additional cost to buy plastic bags as a place to shop. If shopping for fast food and beverage products is also so important to be regulated and adjusted, at least it does not produce too much non-organic waste.
- c. If household consumption already contains waste or plastic waste, glass bottles and or other types of non-organic waste. So, in this phase, the participation of individual families contributes significantly to efforts to overcome the waste problem, namely by cultivating to choose and separate organic waste and non-organic waste at the family level so that when it is disposed of at the TPS, the disposal condition is already in a separate state between the two types of waste. In the end, it can make it easier for TPS up to the landfill level to manage waste in an effort to realize a lifestyle with zero waste, or zero residue campaigns in the future.

## **2. Healthy Living Culture by Paying Attention to Shopping and Consumption Behavior**

The culture of healthy living reflects cleanliness, where cleanliness is the proof or fruit of the faith of a Muslim, as narrated by Muslims, that Purifying is part of the Faith (HR. Muslim, 329); (Sahih Muslim, n.d.). In the implementation of this PKM, the context is about environmental cleanliness, namely the family to the community environment. In fact, it is not impossible that this healthy living culture can give birth to personal hygiene, heart hygiene, and property cleanliness.

Therefore, cleanliness can at least start from the family environment and the individual of each family can certainly do it if the culture of healthy living has grown. This socialization point emphasizes attention to shopping and consumption behavior. Awareness in shopping and consumption behaviors that avoid the use of goods that produce non-organic waste is a significant real participation of the community, even if it is a simple way in reducing the waste problem at the TPS level so that it can reduce the amount of waste at the landfill level.

## **3. Implementation of Financial Management with Economic Behavior**

The creation of a management-based healthy living culture and economic behavior in shopping and consumption behavior reflects the implementation of financial management that correlates with cost cutting based on activities in Cost accounting. Even avoiding spending money on activities or things that actually do not need to be spent without providing more benefits or added value, but instead the problem causes the problem of waste arising. For example, plastic bags or the like are instantly purchased for groceries or food/beverages, but the waste must eventually be thrown away and difficult to decompose at the level of waste

management or recycling (it needs to be adjusted, at least reduced in use). This behavior is actually a waste of family finances (e.g., mothers) without the effectiveness of results and benefits in the assessment of relative household needs in the long term, on the contrary, in high intensity with a long period of time in post-purchase behavior can often result in an increase in the generation of nonorganic waste and problems that are difficult to solve. Therefore, healthy living behavior with a management approach and economic behavior can ultimately allocate family finances relatively to meet other needs, rather than being allocated more to buy something that does not provide much benefit, but instead causes further problems in the future.

### **Evaluation of Activity Implementation Results**

The implementation of PKM activities can be carried out properly as expected, starting from the observation stage, preparation and implementation stage of activities which consist of: [1] Socialization of grassroots-based waste handling; [2] A culture of healthy living by paying attention to shopping and consumption behavior; and [3] Implementation of Financial Management with economic behavior. The presence of community members as the main partners proves the attention and participation of partners related to the critical issue of grassroots-based waste management carried out in this PKM according to the initial theme.

At the evaluation stage, the results showed a gradual increase in the basics of some individual families in the community who applied the culture of selecting organic and inorganic waste at the family level as one of the dominant grassroots waste producers, healthy cultural behavior by emphasizing discipline in shopping and consumption behavior, to the implementation of management-based financial management and economic behavior in shopping and consumption behavior. However, there was not an even change in habits among community members, especially the evaluation for residents who participated in several meeting sessions at the socialization and implementation stage of this PKM activity. However, the magnitude of incremental changes related to consumption behavior and waste handling at the individual family level is positive, in terms of impact, at least the output of this PKM can participate in reducing the problem of waste generation and reducing the problem of the amount of non-organic waste at the TPS level around PKM partners to the landfill level and the community as a whole.

### **Discussion**

The problem of waste generation is a classic problem in various regions, even in the wider global environment that requires awareness, attention and serious cooperation from various parties to be involved in overcoming it. This community service activity has a good impact, at least the output of this PKM can participate in managing grassroots-based waste, thereby reducing the problem of waste generation and reducing the problem of a large amount of non-organic waste.

Referring to the implementation and activities and evaluation of the results of the implementation of activities, these three activity programs can make a positive contribution to several outputs. First, increasing awareness of the importance of waste management. Second,

the culture of waste order starts from individuals and family members; Third, the growth of a culture of sorting waste between organic waste (zero residue) and inorganic waste before waste is dumped in landfills/bins, of course this is if household consumption already contains waste or plastic waste, glass bottles and or other types of non-organic waste; Fourth, regular habits in disposing of garbage and awareness of the importance of reducing the amount of garbage. Fifth, a healthy living culture emphasizes attention to shopping and consumption behavior. Awareness in shopping and consumption behaviors that avoid the use of goods that produce non-organic waste is a significant real participation of the community, even if it is a simple way in reducing the waste problem at the TPS level so that it can reduce the amount of waste at the landfill level.

Sixth, the creation of a management-based healthy living culture and economic behavior in shopping and consumption behavior reflects the implementation of financial management which correlates with cost cuts based on activities in Cost Accounting. Even avoiding spending money on activities or things that actually do not need to be spent without providing more benefits or added value, but instead the problem causes the problem of waste arising. Plastic bags or the like that are purchased instantly for groceries or food/beverages, but the used ones must eventually be thrown away and are difficult to decompose at the level of waste management or recycling (need to be adjusted, at least reduced in use). This behavior is actually a waste of family finances without the effectiveness of results and benefits in the assessment relative to household needs in the long term, on the contrary, in high intensity with a long period of time in post-purchase behavior can often result in an increase in the generation of nonorganic waste and problems that are difficult to solve. Therefore, healthy living behavior with a management approach and economic behavior can ultimately allocate family finances relatively to meet other needs, rather than being allocated more to buy something that does not provide much benefit, but instead causes further problems in the future at the TPS level around the community environment and at the TPS level until the cleanliness of the community health community environment is created in the modern era with a healthy lifestyle that is free of waste in a sustainable manner.

## **Conclusion**

The implementation of this KKM activity offers three main activities. First, socialization of grassroots-based waste handling; Second, a healthy living culture by paying attention to shopping and consumption behavior; Third, the implementation of Financial Management with economic behavior. The three PKM activity programs that have been trained by the team, at least can make a positive contribution to several outputs. First, increasing awareness of the importance of waste management; Second, the culture of waste order starts from individuals and family members; Third, the growth of a culture of sorting waste between organic waste (zero residue) and inorganic waste before the waste is dumped in landfills/garbage cans; Fourth, regular habits in disposing of garbage and awareness of the importance of reducing the amount of garbage. Fifth, a healthy living culture emphasizes attention to shopping and consumption behavior; Sixth, the creation of a management-based healthy living culture and economic behavior in shopping and consumption behavior reflects the implementation of

financial management that correlates with cost cuts based on costs that should not be incurred in shopping activities and people's consumption behavior.

The implications of the implementation of the activity, in the future similar follow-up activities are needed to support the realization of the zero waste and zero residue program for clean and waste-free living by applying a scientific approach in the implementation of financial management at the individual family level, accompanied by adapting and integrating technology that allows the involvement of various related parties in a continuous manner in waste management among the community.

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