

## Relationship between Knowledge, Attitudes, and Actions in Waste Management with Community Participation in the Waste Bank Program in Serang Regency

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### Abstract:

A waste bank is a place for sorting and collecting waste that can be recycled or reused, which has economic value. The waste bank mechanism consists of sorting household waste banks, depositing waste to banks, weighing waste, recording, and transporting collected waste. This study aimed to determine the relationship between knowledge, attitudes, and actions regarding waste management in Lebakwana Village, Kramatwatu District, during research time in 2022, with a sample of 57 respondents. Data collection techniques used primary and secondary data; the data analyses were univariate and bivariate analysis. Based on the results of knowledge research with community participation in the waste bank program through Chi-square, the p-value is  $(1,000) > (0.05)$ . Therefore, the proposed hypothesis ( $H_a$ ) is not accepted. There is no significant relationship between knowledge and community participation in the waste bank program in Serang City.

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## INTRODUCTION

The waste problem is a problem that cannot be appropriately resolved, especially in various regions in Indonesia (Krisbiantoro & Santiko, 2021). The amount of waste continues to increase every year. Public and government awareness of waste must be raised to avoid the waste problem. Rapid population development and growth in urban areas have made residential areas broader and denser. Increased human activity further causes an increase in waste. The factor that influences the amount of waste apart from population activities is the waste management system (Prayojana et al., 2020).

Government Regulation (PP) no. 81 of 2012 concerning the Management of Household Waste and Waste Similar to Household Waste as a derivative of Law 18 of 2008 regulates the categories of household waste originating from daily activities in the household (excluding feces and specific waste) and waste similar to household waste originating from commercial areas, industrial areas, particular areas, general social facilities, or other facilities (Siregar, 2023).

Waste management is an activity that requires community participation in its implementation (Sulistiyorini et al., 2016). In Indonesia, one form of community participation in waste management activities is the establishment of waste banks. Waste Bank is developing the concept of waste management in Indonesia using the 3R method (reuse, reduce, recycle). According to the Regulation of the Minister of Environment of the Republic of Indonesia, Number 13 of 2012 concerning Implementation Guidelines Reduce, Reuse, and Recycle. The Waste Bank in article 1,

paragraph 1 defines the waste bank as a place for sorting and collecting waste that can be recycled or reused and has economic value (Siagian et al., 2022).

The implementation of 3R activities is still being hampered by low community participation. As many as 50.1% of households manage waste by burning it, 9.7% dispose of it carelessly, and only 8.75% use it. Waste sorting 11.09% of households have sorted waste according to type. Based on research from Yuliana & Wijayanti (2019), it is known that there is a relationship between knowledge and community participation in the waste bank program ( $p=0.002$ ). Posmaningsih's (2106) research shows that community participation in waste management is influenced by attitudes ( $p=0.0001$ ). According to research by Solihin (2014), there is a relationship between customer actions and community participation in waste management in the waste bank program ( $p=0,039$ ). Manalu et al. defines a waste bank as a program where people can bring certain waste, which can then be processed into valuable materials. With the existence of a waste bank, it is hoped that people will be more interested in keeping the environment clean, and can also increase income from reciprocal giving of waste and money (Dongoran et al., 2018)

The community is seen as one of the main factors in the success of waste management because the community and all the activities they carry out are one of the causes of the current waste, increasing in quantity and becoming more diverse in type. The active role of communities or individuals can be started by implementing positive behavior such as collecting, storing, sorting, and recycling waste to reduce the volume and distribution of waste (Ilma et al., 2021)

The population in Serang Regency in 2020 reached 1,622,630 people. Meanwhile, the volume of waste generation in Serang Regency in 2020 reached 98,339.0 m<sup>3</sup>/year. Every year, the volume of waste in Serang Regency continues to increase due to population growth and changes in community consumption patterns, making the characteristics of waste increasingly diverse (Nurikah et al., 2022). In the Kramatwatu sub-district, especially in the border areas of the sub-district, a lot of rubbish is still strewn about and has become a transit place for rubbish dumping because many people pass by on motorbikes while throwing rubbish on the side of the road in the end, the area becomes smelly and dirty and requires proper waste management.

Based on data from the Serang Regency Environmental Service, there are 3 registered waste banks, one of which is the "Lestari Liga" waste bank located in Lebakwana Village, Kramatwatu District. The waste bank management hopes that establishing this waste bank can reduce waste generation around the Lebak Indah Griya Asri Housing Complex, especially in RT 05.

A preliminary study conducted by the author by measuring interviews with 5 residents shows that only 2 people have good knowledge, 3 have a good attitude in sorting waste, and only 3 have correct actions in managing waste. These interviews found that public knowledge about waste is still lacking; the public also does not know about 3R (Reduce, Reuse, Recycle), an indifferent attitude toward sorting waste, and the actions of people who do not know how to manage waste properly.

This research aims to determine the relationship between knowledge, attitudes, and actions in waste management in Lebakwana Village (Lebak Indah Griya Asri Housing RT 05) Kramatwatu District, Serang Regency.

## METHOD

The research design used in this research is descriptive-analytical with cross-sectional approach. The population in this study was all the people in RT 05 Housing Lebak Indah Griya Asri, as many as 150 families; the total sample was 57 respondents using a sampling technique of

Simple Random Sampling. For primary and secondary data sources, univariate data analysis determines the frequency distribution of each research variable, but this univariate analysis only describes each research variable. Bivariate analysis tests the relationship between two variables, namely the relationship between the independent and dependent variables, using a test analysis of Chi-square at the limit of the significance of the calculation statistic p-value (0.05).

## RESULT

### Univariate Analysis

Table 1. Description of Knowledge, Attitudes, and Actions for Waste Management in the Waste Bank Program (n=57)

Variable	Frequency	Percentage
Knowledge		
Less Good	16	28.1
Good	41	71.9
Attitude		
Less Good	24	42.1
Good	33	57.9
Waste Management Action		
Less Good	35	61.4
Good	22	38.6

Based on Table 1, it is known that out of 57 respondents, there are 16 (28.1%) people have poor knowledge, and 41 (71.9%) people who have good knowledge in Lebakwana Village Lebak Indah Griya Asri Housing RT.05 Kramatwatu District, Serang Regency In 2022. It is known that out of 57 respondents, there are 24 (42.1%) people who have a bad attitude and 33 (57.9%) people who have a good attitude in Lebakwana Village, Lebak Indah Griya Asri Housing RT.05 Kramatwatu District, Serang Regency 2022. Meanwhile, of the 57 respondents, there were 35 (61.4%) communities had poor waste management practices, and 22 (38.6%) communities had good waste management practices in Lebakwana Village, Lebak Indah Griya Asri Housing RT.05 Kramatwatu District, Serang Regency.

### Bivariate Analysis

Table 2. Relationship between Knowledge and Community Participation in the Serang Regency Waste Bank Program (n=57)

Knowledge	Community Participation in the Waste Bank Program				Total		p-value
	Did not participate		Participate				
	n	%	n	%	n	%	
Less Good	5	31.3	11	68.8	16	100	1.000
Good	12	29.3	29	70.7	41	100	
Total	17	29.8	40	70.2	57	100	

Table 2 shows that of the 16 respondents with poor knowledge, 5 (31.3%) did not participate, and 11 (68.8%) participated. Meanwhile, of the 41 respondents with good knowledge, 12 (29.3%) did not participate, and 29 (70.7%) participated. Based on the Chi-Square Test, a p-value of 1.000 is obtained and when compared with a significance level of  $\alpha = 0.05$ , the p value (1,000) >  $\alpha$  (0.05).

Therefore, the proposed hypothesis ( $H_a$ ) is not accepted. There is no significant relationship between knowledge and community participation in Lebakwana Village, Kramatwatu District.

Table 3. Relationship between Attitudes and Community Participation in The Waste Bank Program in Serang Regency (n=57)

Attitude	Community Participation in the Waste Bank Program					p-value	
	Did not participate		Participate		Total		
	n	%	n	%	n		%
Less Good	6	25.0	18	75.0	24	100	0.700
Good	11	33.3	22	66.7	33	100	
Total	17	29.8	40	70.2	57	100	

Table 3 shows that of the 24 respondents who had unfavorable attitudes, 6 (25.0%) did not participate, and 18 (75.0%) participated. Meanwhile, of the 33 respondents with a good attitude, 11 (33.3%) did not participate, and 22 (66.7%) did. Based on the Chi-Square Test, the p-value is obtained at 0.700, and when compared with the significance level  $\alpha = 0.05$ , the p-value (0.700)  $> \alpha$  (0.05). Therefore, the proposed hypothesis ( $H_a$ ) is not accepted. There is no significant relationship between attitudes and community participation in Lebakwana Village, Kramatwatu District.

Table 4. Relationship between Waste Management Actions and Community Participation in the Waste Bank Program in Serang Regency (n=57)

Waste Management Actions	Community Participation in the Waste Bank Program						p-value
	Did not participate		Participate		Total		
	n	%	n	%	n	%	
Less Good	12	34.3	23	65.7	35	100	0.528
Good	5	22.7	17	77.3	22	100	
Total	17	29.8	40	70.2	57	100	

Table 4 shows that of the 35 respondents who had poor waste management actions, 12 (34.3%) did not participate, and 23 (65.7%) participated. Meanwhile, of the 22 respondents who had good waste management actions, 5 (22.7%) did not participate, and 17 (77.3%) participated. Based on the Chi-Square Test, the p-value is 0.528, and when compared with the significance level  $\alpha = 0.05$ , the p-value (0.528)  $> \alpha$  (0.05). Therefore, the proposed hypothesis ( $H_a$ ) is not accepted. There is no significant relationship between waste management actions and community participation in Lebakwana Village, Kramatwatu District.

## DISCUSSION

### Knowledge

The research results show that of the 57 respondents in Serang Regency, 16 (28.1%) had poor knowledge, and 41 (71.9%) had good knowledge. The research results show that knowledge is good if respondents follow the research mechanism and understand the meaning and importance of positive behavior (Rahman et al., 2020).

Based on field analysis, community knowledge regarding community participation in the waste bank program is quite good. Some people are willing to participate in the waste bank program, but some people do not know about the function of waste banks; some people do not

participate in making handicrafts, and generally -On average, people still combine organic and inorganic waste; only some people have sorted waste.

The people in the Lebak Indah Griya Asri Housing Complex have quite good knowledge. Still, not all of them understand the difference between organic waste and inorganic waste, nor do they understand the function of the Lestari Liga Waste Bank. However, the waste bank management tries to explain to the public the importance of sorting waste and turning waste into goods that have economic value. Based on the data obtained for the education of the Lebak Indah Griya Asri Housing RT.05 community, 75% are in high school, 10% are in middle school and elementary school, 10% have a bachelor's degree, while 5% are not in school, so some people in RT.05 already know about waste.

## Attitude

The research results show that of the 57 respondents in Lebakwana Village, Kramatwatu District, in 2022, 24 (42.1%) respondents had poor attitudes, and 33 (57.9%) respondents had good attitudes.

Of the 24 respondents who had unfavorable attitudes about community participation in the Waste Bank program, from 5 questions, they did not agree if waste was thrown away every day and did not agree if trash cans had lids. From the data obtained, even though some people's attitudes are not good, they still participate, whether they become members of waste bank customers or participate in community service in cleaning up waste.

## Waste Management Action

Based on the results of the research, out of 57 respondents in Lebakwana Village, Kramatwatu District, in 2022, as many as 35 (61.4%) respondents have poor waste management practices, and 22 (38.6%) respondents have good waste management practices.

Of the 35 respondents with poor waste management practices regarding community participation in the Waste Bank program, 5 questions included not sorting waste, combining organic and inorganic waste, not having waste bins available for organic and inorganic, and not knowing enough about how to use waste. burned. The data shows that communities with poor waste management practices participate more than good ones.

In general, some people in the Lebak Indah Griya Asri Housing Complex, especially RT 05, already have good waste management measures in place. For example, they can differentiate between wet waste and dry waste; apart from that, they have 2 rubbish bins, and there are no longer any people who throw rubbish in rivers or ditches.

## CONCLUSION

Based on a literature review study conducted, the application of progressive muscle relaxation therapy has been proven to be effective in reducing anxiety in cancer sufferers. Progressive Muscle Relaxation Therapy can be used as a treatment intervention for psychosocial anxiety problems, especially in cancer sufferers.

The frequency distribution of the relationship between knowledge, attitudes and waste management actions with community participation in the waste bank program in Serang Regency is quite good and has no significant relationship.

It is hoped that every resident will socialize to improve waste sorting, work together to clean up rubbish around housing, and collaborate with local waste bank or RT/RW administrators



regarding the waste bank program so that people can better understand that waste has economic value.

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