

The Relationship of Knowledge and Attitudes Towards Community Waste Management in Baranti District, Sidenreng Rappang Regency

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Introduction

Education is a process of obtaining changes that lead to improved abilities and behaviors. Education is not something that must only be in the classroom, in essence, education is a process when and wherever learning will still exist. Pinem (2016) stated that education affects environmental health conditions because education is related to a person's intellectual level, therefore, it is really possible to correlate positively with knowledge of environmental problems of society. Biology education is part of science education which is a vehicle to improve science, skills, and attitudes and be responsible for the environment. Law of the Republic of Indonesia Number 32 of 2009 concerning Environmental Protection and Management Article 1 Paragraph 1, explained that the environment is the unity of space with all objects, forces, conditions, and living things, including humans and their behavior, which affect nature itself, the survival of life, and the welfare of humans and other living things. In line with this, human factors and behavior greatly affect the state of the environment. This is also explained by Effendi et al (2018) that there is a reciprocal relationship between humans and their living environment where humans affect their living environment and vice versa humans are influenced by the surrounding environment. Man exists within his environment and is inseparable from it. The continuous increase in human population and rapid industrialization have led to changes in the global regarding improper waste disposal (Atienza, 2008). Indonesia is one of the countries that is experiencing a faster population increase. Based on data from the Central Statistics Agency (BPS) in 2019, the census obtained a population of 301,972 people in the Sidenreng Rappang Regency. Compared to the population in 2008, which was 250,666 people, this is an increase of 51,306 people. The increasing population and the development of people's lifestyles will certainly have an impact on improving people's living standards. As explained by Soemarwoto in Syam (2016) that along with the increase in population, the income also increased. Rapid income causes a consumptive lifestyle so that the level of

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Abstract. *Correlation of Knowledge and Attitudes towards Waste Management in the Community in Baranti Subdistrict in Sidenreng Rappang District. The type this study is ex post facto, which aims to discover the correlation between knowledge and attitudes towards waste management in the community in the Baranti subdistrict in the Sidenreng Rappang district. The independent variables are knowledge and attitudes, whereas the dependent variables are waste management. The research population in this study were all households in the Baranti subdistrict in Sidenreng Rappang district, whereas the samples were 190 people taken by using the Issac and Michael with a level of error of 5%. Data collection techniques employed questionnaires and interviews. Data were analyzed by employing a descriptive statistical technique and an inferential statistical technique. The results of the study based on inferential statistics analysis are as follows, it is that there is a positive and significant correlation between knowledge and waste management at a strong correlation level with the sig. there is a positive and significant correlation between attitudes and waste management at a very strong correlation level with the sig. There is a positive and significant correlation between knowledge and attitudes towards community waste management at a very strong correlation level with the sig. The biggest effective contribution to the dependent variable (Waste Management) is given by attitude by 55.81%, and knowledge by 16.23%. The total effective contribution is 72.04%, which means knowledge and attitude collectively provide an effective contribution by 72.04% to the community waste management in the Baranti subdistrict in Sidenreng Rappang district, while 27.96% is influenced by unexamined factors.*
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consumption increases, starting from food and packaging, while income to handle waste is still limited. As a result, in rural areas, a lot of waste is piled up or scattered.

Piled and scattered waste is the most drawback related to waste management, especially in developing countries' ineffective waste collection strategies and lack of landfills (Reyes and Furto, 2013). Environmental pollution related to unclear information about waste disposal has a negative impact on public health and safety (Mamady, Mafoule, 2014). The existence of waste in everyday life cannot be separated from the hands of humans who throw waste carelessly, they consider items that have been used to have no use anymore and dispose of them arbitrarily (Marojahan, 2015). Waste scattered on the street and yard of the house gives the impression of shabby to the environment. Environmental issues are not only a burden and responsibility of the government, but also a common duty of everyone. Siahaan (2004) states that everyone has equal rights to the environment, gets fresh air, clean healthy water, and also has decent housing that needs by a good environmental ecosystem, increases environmental capabilities, keeps the environment from being polluted and damaged, and is responsible for every act that pollutes and damages the environment.

Similarly, Dr. Najib Asmani, Coordinator of the South Sumatra Peatland Restoration Team (TRG) in Wijaya (2017), explained that environmental problems are problems that must be found solutions. In every period of human civilization, there are always environmental problems. There is a tendency, and nowadays humans are not wise to manage the environment. Many environmental problems need to be addressed at the individual level, requiring individuals to develop attitudes that will lead to environmentally supportive behavior (Hamad Al-Rabaani and Al-Mekhlafi, 2009). Efforts that can be made are reducing and controlling environmental pollution. The community needs to be aroused in awareness and concern in order to prevent or reduce environmental pollution. The use of used goods, not littering, and showing a frugal lifestyle are attitudes that need to be instilled in the community starting in children (Haryanto, 2018).

Waste is one of the causes of damage to nature and the environment that has a negative impact on society, especially health, environmental and aesthetic impacts. According to Daud (2009) if we analogize that if one person throws one pack of candy anywhere, then how many candy packets if all Indonesians do the same. Landfills in vacant lots can cause a foul smell and invite flies which can then become vectors of digestive diseases. Similarly, plastic waste that is not easily decomposed by the soil, will cause soil pollution. Waste that is not managed properly, not only has a negative impact on health and environmental sustainability but also gives a negative impression when viewed from an aesthetic or beauty point of view (Sudaryanto, 2008).

In an effort to handle hygiene problems in Baranti District, the government has tried its best by providing good facilities such as the provision of waste cans. As explained in Law of the Republic of Indonesia Number 18 of 2008 concerning Waste Management in Article 5, it is explained that the government and local governments are tasked with ensuring the implementation of good and environmentally sound waste management. However, it seems that the effort still needs to be improved by leveling the provision of waste bins in each hamlet and conducting various environmental sanitation counseling.

No matter how big the government's efforts are, if there is no community participation and support, then the efforts will not succeed. Therefore, good participation from the community is highly expected in maintaining the cleanliness of the surrounding environment. As explained by Marojahan (2015) that handling residential waste requires the active participation of individuals and community groups so that the role of the government does not get heavier. Basically, managing waste properly is the responsibility of every individual who produces waste, therefore, various elements have the responsibility to participate in waste management by cultivating waste management behavior from an early age in households, as the lowest structure in urban waste management.

According to Nirwono (2013) that the most prominent way of handling waste in urban areas is by being transported by cleaners (42.9%), while in rural areas the most common is by

burning (64.1%)". Satriadharma in Sudaryanto (2008) said that managing waste is not just technical but requires knowledge and attitude, requires knowledge and correct understanding of waste. Based on this, counseling to the community becomes very important so that the community can have knowledge about waste management properly, attitudes towards waste management that are increasingly positive to support the creation of a balanced environment. With this knowledge, it is hoped that the community can behave better in managing waste.

Sari (2018) suggested that waste management is one of the effective ways that can be done to overcome waste problems. Waste management is carried out by reducing the accumulation of domestic waste (reduce), reusing domestic waste that is still suitable for use (reuse), and recycling domestic waste (recycle) so that the waste can have economic value. Waste management in rural areas is generally done by burning, planting in holes, and not infrequently throwing into sewers, rivers, and even piling up in shellfish or gardens. Although experts have found various ways to deal with waste, including recycling, these methods still do not solve the problem of increasing number and type of waste, both in rural and urban slums Dainur in Rohani (2007).

The survey was conducted by researchers in Baranti District, Sidenreng Rappang Regency, where there are no cleaners who transport waste, only TPS3R (Reuse-Reduce-Recycle Waste Management Site) is available, Mariorennu Light, Passeno Village, Baranti District. Socialization and capacity strengthening of TPS3R Cahaya Mariorennu have been carried out to encourage the public to bring household waste to be sorted and taken to the landfill. Some communities also manage waste into compost, but people who are far from TPS3R choose to throw it on some vacant land and in their yards and burn it. So that problems arise, especially in the rainy season, when waste that is not burned by the community is left scattered around the house, in addition to causing disease, this waste covers the existing sewers so that in the rainy season water enters into the house.

Based on the description above, the researcher felt the need to conduct a study entitled "The Relationship of Knowledge and Attitudes with Community Waste Management in Baranti District, Sidenreng Rappang Regency."

Research Method

This type of research is included in the type of correlational research. The variables investigated in this study are knowledge, attitudes, and waste management in Baranti District, Sidenreng Rappang Regency. Data collection was carried out using tests, questionnaires, interviews, and documentation. The data analysis techniques carried out in this study are descriptive statistical analysis and inferential statistical analysis.

Result and Discussion

The results of descriptive and inferential statistical data analysis are as follows:

1. Descriptive Analysis
 - a. Garbage Knowledge

Public knowledge about waste is 56.62, standard deviation is 21.298, variance is 453.137, the lowest value is 16 and the highest value is 97 can be seen in Table 1.

Table 1. Results of Descriptive Statistical Analysis of Waste Knowledge (X₁)

Statistic	Statistic Score
Average	56,62
Standard deviation	21,298
Variations	253,137
Lowest Value	16
Top Rated	97
Number of Samples	190

Source: Knowledge calculation data tabulation

Table 2. Results of Validation of Lecturer Response Questionnaire Instrument

Score Interval	Category	Frequency	Percentage (%)
85-100	Very High	21	11,05
75-84	Tall	23	12,10
65-74	Keep	28	14,74
55-64	Low	61	32,11
<54	Very Low	57	30
Total		190	100

Data Source: Year Survey 2021

Based on the Table, it can be concluded that public knowledge about waste from 190 respondents is in the very low to low category with a frequency of 57 and 61 people with a percentage of 30% and 32.11%

b. Attitude Towards the Waste

People's attitude towards waste is 118.85, standard deviation is 11.787, variance is 138.924, lowest value is 81 and highest value is 148.

Table 3. Results of Descriptive Statistical Analysis of Attitudes Towards Waste (X₂)

Statistic	Statistic Score
Average	118,85
Standard deviation	11,787
Variances	138,924
Lowest Value	81
Top Rated	148
Number of Samples	190

Source: Tabulation of attitude calculation data

Table 4. Product Validation Instrument Analysis Results

Score Interval	Category	Frequency	Percentage
135,57<	Very Positive	8	4,2
125,74 – 136,53	Positive	50	26,3
113,95 – 124,74	Neutral	98	51,6
102,16 – 112,95	Negative	16	8,4
<101,16	Very Negative	18	9,5
Aspect Average		190	100

Data Source: Year Survey 2021

c. Waste Management

Waste management by the community is 58.64, the standard deviation is 9.489, the variance is 90.041, the lowest value is 37 and the highest value is 85. It can be seen in Table 5

Tabel 5. Results of Descriptive Statistical Analysis of Waste Management (Y)

Statistic	Statistic Score
Average	56,62
Standard deviation	21,298
Variations	253,137
Lowest Value	16
Top Rated	97
Number of Samples	190

Source: Tabulation of waste management calculation data

Table 6. Distribution of Frequency and Percentage of Waste Management (Y)

Score Interval	Category	Frequency	Percentage (%)
73,86	Very High	10	5,3
64,38 – 72,86	Tall	57	30
54,89 – 63,38	Keep	62	32,6
45,51- 53,89	Low	49	25,8
<44,41	Very Low	12	5,3
Total		190	100

Data Source: Year Survey 2021

2. Prerequisite test results

a. Normality Test Results

Table 7. Kolmogrov-Sminov Normality Test Results

No	Variable	N	Alpha (α)	Sig. (2-tailed)
1.	Knowledge waste (X1)	190	0,05	0,747
	Attitude towards litter (X2)	190	0,05	0,505

Source: Results of the analysis of the SPSS program version 21.0 for windows

b. Linearity Test Results

Table 8. Data Linearity Test Results

No	Variable	N	Alpha (α)	Sig. (2-tailed)
1.	Knowledge waste (X1)	190	0,05	0,132
	Attitude towards litter (X2)	190	0,05	0,305

Source: Results of the analysis of the SPSS program version 21.0 for windows

1. Test Data Hypothesis

a. Analysis of the Significance of the Relationship between Knowledge and Attitudes with Waste Management in the Community in Baranti District, Sidenreng Rappang Regency.

Table 9. Results of Regression Analysis of the Relationship between Knowledge and Attitudes with Community Waste Management in Baranti District, Sidenreng Rappang Regency

No	Correlation Coefficient	Coefficient of Determination	Adjusted R Square	Std. Error of the Estimate
1.	.849 ^a	.720	.717	5046

Source: Results of the analysis of the SPSS program version 21.0 for windows

Table 10. Results of Analysis of Variance of Relationship between Knowledge and Attitude with Community Waste Management in Baranti District, Sidenreng Rappang Regency

ANOVA ^a						
No	Model	Sum of Squares	Free Degrees	Mean Squared	F	Sig. F
1.	Total	12256.986	2	6128.4	240.72	.000 ^b
	Residual	4760.677	187	93	8	
	Regression	17017.663	189	25.458		

Source: Results of the analysis of the SPSS program version 21.0 for windows

Table 10 shows that $F_{\text{calculate}}$ is 184,196 with a significance level of 0.000. From the results of the analysis, it is known that the probability value of $\alpha = 0.05$ is greater than the probability value of Sig. which is 0.000, thus it can be concluded that knowledge is able to predict community waste management. This means that knowledge has a significant relationship with the achievement of waste management.

a. Analysis of the Significance of the Relationship between Knowledge of Waste and Waste Management in the Community in Baranti District, Sidenreng Rappang Regency

Table 11. Results of Regression Analysis of the Relationship between Knowledge and Community Waste Management in Baranti District, Sidenreng Rappang Regency

No	Correlation Coefficient	Coefficient of Determination	Adjusted R Square	Std. Error of the Estimate
1.	.703 ^a	.495	.492	6.762

Source: Results of the analysis of the SPSS program version 21.0 for windows

Table 12. Results of Analysis of Variance of the Relationship between Knowledge and Community Waste Management in Baranti District, Sidenreng Rappang Regency

ANOVA ^a						
No	Model	Sum of Squares	Free Degrees	Mean Squared	F	Sig. F
1.	Regresi	8421.866	1	8421.866	184.19	.000 ^b
	Residual	8595.797	188	45.722	6	
	Total	17017.663	189			

Source: Results of the analysis of the SPSS program version 21.0 for windows

Table 12 shows that $F_{\text{calculate}}$ is 425.282 with a significance level of 0.000. From the results of the analysis, it is known that the probability value of $\alpha = 0.05$ is greater than the probability value of Sig. which is 0.000, thus it can be concluded that attitudes are able to predict community waste management. This means that attitude has a significant relationship with the achievement of waste management.

Discussion

1. Deskripsi Pengetahuan Sampah Pada Masyarakat di Kecamatan Baranti Kabupaten Sidenreng Rappang.

Community knowledge about waste is in a low category due to the lack of information about waste and its management and habits in the family. From the results of the study, it can be seen that some people do not know about the correct definition of waste, the importance of sorting wet and dry waste, some do not know the benefits of sorting waste, and the community does not know the consequences of poor waste management. According to Daud (2009), the greater the frequency of obtaining information about environmental management, the more knowledge, the higher the motivation, and the more awareness of the importance of environmental management. In addition, it can be seen from the level of education of respondents, most of whom graduated from elementary school (29%), junior high school (21.1%), and high school (19.5). Research conducted by Dewi (2016) states that human knowledge can be obtained from formal education and personal experience, this means that at a high level of education, knowledge about waste management will be better.

2. Description of Attitudes towards Waste in the Community in Baranti Sub-district, Sidenreng Rappang District.

Based on the results of the research that has been conducted, there are various attitudes. The majority of community attitudes are in the neutral category. This is due to habits that do not want to be changed such as littering, still lacking housewives who want to re-process the waste produced, and also still lacking people who want to separate organic and inorganic waste. However, there are also some housewives who use waste such as plastic in flower plant containers in the yard, and also with TPS3R in Baranti District, the community has processed organic waste into compost.

Based on the results of interviews asking about the reasons for managing waste by disposing of it in the environment without management because the community is used to this method, as well as other reasons the waste collection is quite far away and many people still do not know the existence of TPS3R in Baranti District which is located in one village, namely Passeno Village. According to Burhanuddin (2010) the existence of waste bins that are already in inadequate condition, will affect a person's behavior in collecting waste.

Some people are aware of the importance of attitudes towards waste at certain times, for example during the rainy season by cleaning up waste in the drainage around the house so

as not to cause stagnant water or even flooding. So that attitudes towards waste in Baranti Sub-district, Sidenreng Rappang Regency, are in the neutral category.

3. Description of Waste Management in the Community in Baranti Sub-district, Sidenreng Rappang District.

Based on the results of the research that has been conducted, it shows that there is a variety of waste management. Communities in Baranti Sub-district have a moderate level of waste management. This is based on the results of interviews with the community due to several factors, various ways of processing the waste they produce, the head of the family also participates in disposing of waste to TPS3R, the head of the family plays a role in stage 2, namely the transportation of waste, housewives play a role in stage 1, namely waste collection, stage 3, namely waste sorting, such as in terms of sorting organic and inorganic waste, and even stage 4, namely waste recycling. So, the management of waste generated is not always carried out by housewives.

Some people in Baranti Sub-district burn waste in their own yards or gardens and process the waste into compost, but some leave the waste for days at home and do not immediately bring the waste generated to TPS3R. From what researchers observed in the field, one of the reasons people do not dispose of waste at the TPS3R that has been provided is because the TPS3R is far from home, there is only one TPS3R in Baranti Sub-district which is located in Passeno Village, so people who are far from TPS3R such as Manisa Village /, Tiroang Rijang Village / Kelurahan, and Panreng Village / choose to burn their own waste.

Some Baranti Sub-district communities have not realized the importance of waste segregation in the environment even though some communities have used waste management facilities and infrastructure. People still dispose of waste in bundles and even burn waste in densely populated neighborhoods. The community's assumption that waste management is troublesome and expensive, and management is considered to be only the business of the janitor is the main reason for reluctance to manage household waste produced by the community.

Based on this description, it is necessary to understand the community that good waste management is a way to minimize the waste they produce and good waste management in order to have a positive influence on the community and the surrounding environment, this is in line with the theory of Sudaryanto (2008) which states that the community will take independent waste management actions if it is based on understanding or understanding of the types of waste, the negative impact of waste that is not managed properly, how to manage waste properly so that it has a positive influence on society.

4. The Relationship between Waste Knowledge and Attitudes Toward Waste with Waste Management in the Community in Baranti Sub-district, Sidenreng Rappang District.

Based on the results of research that has been conducted, it shows that there is a relationship between waste knowledge and attitudes towards waste with waste management. It can be seen from the results of the study that show ($\alpha = 0.05 > p = 0.000$), The role of knowledge, thoughts, beliefs, and emotions is very important in forming a complete attitude, therefore the high knowledge possessed by respondents does not directly form an attitude that is also categorized as supporting community waste management because according to Allport in Notoatmodjo (2010), that attitude has four main components, namely beliefs, ideas, and concepts about objects, emotional life or evaluation of objects and tendency to act. Meanwhile, according to Azwar (2003), factors that influence attitude formation are personal experience, culture, other people considered important, mass media, institutions or educational institutions, and religious institutions, as well as emotional factors in individuals so that it is likely that the attitudes of respondents who mostly do not support environmental sanitation practices due to lack of access to information through counseling or mass media and lack of availability of adequate facilities. Attitude is a readiness to react to an object in certain ways, not yet an action or activity, but a predisposition to action or behavior towards an aspect of the surrounding

environment. A less clean environment and lack of knowledge will have a negative impact on the environment and the personality of each individual (Musdalifah, 2019).

5. Relationship between Knowledge about Waste and Waste Management in the Community in Baranti Sub-district, Sidenreng Rappang District.

Based on the results of research that has been done, it shows that there is a relationship between knowledge about waste and waste management. It can be seen from the results of the study which show ($\alpha = 0.05 > p = 0.000$). Public knowledge about waste management is influenced by how much information about the ways and benefits of managing waste is obtained. Most of the people in the Baranti Subdistrict lack information in the form of socialization and counseling about good and environmentally friendly waste management so people's knowledge is also lacking.

The higher a person's education, the easier it is to receive information so the more knowledge they have, otherwise the less education it will be difficult to digest the messages conveyed (Nursalam, 2008).

6. Relationship between attitude towards waste and waste management in the community in Baranti sub-district, Sidenreng Rappang district.

Based on the results of research that has been done, it shows that there is a relationship between attitudes towards waste and waste management. It can be seen from the research results that show ($\alpha = 0.05 > p = 0.000$). There is a strong relationship between attitudes towards waste and community waste management in Baranti District, Sidenreng Rappang Regency. Based on this relationship, an increase in attitude towards waste will be followed by an increase in waste management. The basis of this relationship is that attitudes underlie an action, in this case, attitudes towards waste can influence community waste management.

This is in line with research stating that although a person has an attitude or belief that cares about the environment, the absence of information can cause that person to not be able to act effectively on his attitudes and beliefs. Information is a factor that can influence a person's knowledge (Dirgantara, 2013). Providing information on how to achieve a healthy life, how to maintain health, how to avoid disease, and so on, will increase public knowledge which will raise public awareness and will ultimately lead to behavior by the knowledge they have (Notoatmodjo, 2010).

Conclusion

Based on the results of the research and discussion stated, it can be concluded that waste knowledge in the community in Baranti District, Sidenreng Rappang Regency is in the low category, attitudes towards waste in the community in Baranti District, Sidenreng Rappang Regency is in the medium category, waste management in the community in Baranti District, Sidenreng Rappang Regency is in the medium category, Waste knowledge and attitude towards waste together have a significant relationship with waste management in the community in Baranti District, Sidenreng Rappang Regency, Waste knowledge has a significant relationship with waste management in the community in Baranti District, Sidenreng Rappang Regency and Attitude towards waste has a significant relationship with waste management in the community in Baranti District, Sidenreng Rappang Regency.

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