

Relationship Knowledge Of Household Mother's Moments On Environmental Waste Management In Makassar City Indonesia

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ABSTRACT

This study aims to determine the relationship of knowledge of housewives about the knowledge of pollution, with environmentally sound waste management in the city of Makassar. This type of research is quantitative research. The study population was all housewives in Rappocini Sub-District, Tidung, Makassar, with number of housewife = 1,883 people. Sample selection was done by random sampling method with 90 sample of housewife. The data collection was done by the test to measure the respondent's knowledge about the pollution. Data analysis technique, conducted by descriptive analysis and simple regression with SPSS software help, that is see how big correlation of knowledge variable of housewife about contamination (X), with environmentally sound waste management variable (Y). The results showed that the level of knowledge about the pollution of housewife in Makassar city (variable X) is in the medium category, has a positive relationship with variable Y with correlation coefficient value (r) of 0.322 and has a low participation rate on waste management environment.

Keywords: *Pollution Knowledge, Housewives, Environmental Waste Management*

INTRODUCTION

Waste management

Garbage is the result of human activities that are also the consequences of the progress and development of a region, especially urban areas. That is, the progress and development as well as population growth and changes in community consumption patterns lead to increased volume, type and character of waste increasingly diverse (Indonesian Republic Act No. 18 of 2008).

Based on Law No. 18 of 2008 on waste management, and Regulation of the Minister of Public Works no. 21 / PRT / M 2006, on National Strategy Policy on Waste Management Development is done through handling and reduction (article 19). According to data from the Ministry of Environment (KLH) Year 2008 each person dumps approximately 800 grams of garbage per day / person. The government is only able to collect and transport garbage about 60-70% of the total amount of waste (Anonymous, 1992). To overcome these problems, waste must be managed properly with the utilization of the effort so it is expected to have the advantage of added value. For that community participation (housewife) in the Environmental Waste Management program with 3R concept, namely: 1) Reduce, 2) Reuse, and 3) Recycle is a very supportive aspect for the success of the program. 3R-based waste management is expected to increase service coverage from

40% in 2000 to 70% by 2015, supported by management readiness and regulatory support at the central and regional levels.

Since the introduction of the 3R program in 2007 it can be reduced by about 3% of the waste volume. Based on field data and previous research results, 3R pilot programs implemented in several cities in Indonesia are still many who have not done so optimally, this is due to several factors including, still lack of awareness of the community (housewives) will be clean, existing regulations less obeyed, the behavior and habits of society (housewives) are difficult to change. Therefore, the community (housewives) need to get the correct knowledge and understanding of the need to reduce the waste since the source of the waste is generated. The success of waste management in the residential environment (households) is strongly influenced by the participation of the community (housewives) as waste producers.

The problem of waste management is one of the problems commonly experienced by almost all cities in Indonesia and has not been solved completely, including the city of Makassar. Regarding the regulatory tool, Makassar has had regional regulations on garbage since 1999. The regional regulation was then revised in 2011 containing 19 chapters and 47 articles that explicitly govern garbage management.

From the description above, it can be understood that the handling and management of waste is not sufficient only supported by technology, facilities and infrastructure and adequate funds, but more important is the participation of all components of society

directly or indirectly, both groups and individuals, including housewives who are directly involved in waste management in each family.

Pollution Knowledge

According to Suhartono (1994) knowledge is something that is known because of daily experience, awareness and information. So knowledge can be gained from learning, information and through daily observation. Furthermore Suriasumantri (2003) suggests that knowledge is what is known about certain objects, including science. Knowledge is therefore the source of answers to the various problems found in life. In line with this, Ardi (1996) said that knowledge is what is known about a certain object obtained consciously, through information, and daily experience.

Burharnuddin (1985) argues that human knowledge can be categorized into three categories: 1) sense knowledge is knowledge obtained through the use of the five senses, that is knowledge obtained from seeing, hearing, feeling, kissing and touching everything, 2) knowledge of science knowledge acquired by systematic, radical thinking accompanied by research or experimentation, 3) knowledge of philosophy ie knowledge gained through systematic, radical, and universal thinking.

As has been described before that man will never stop to try to improve the quality of his life which is nothing but the effort to get a better life comfort. The advancement of industry and technology has been able to improve the quality of human life. But on the other hand the progress of industry and technology can also have an impact on the

environment that will ultimately affect human beings. In order for the environment to remain well preserved and nature still provide its supportive capacity for human life, all activities related to the problem of improving the quality of human life, such as industry, transportation, agriculture, fishery, livestock, mining, power plant, workshop including activities and activities households should always pay attention to the impact on the environment.

All activities mentioned above should not cause pollution or environmental damage in accordance with the basic principles of good environmental management, namely that before there is activity and after activities there is no change to the environment unless positive changes or impacts.

Industrial and technological advances are utilized by humans to improve their quality of life. It has been proven that industry and advanced technology are synonymous with better life. So the progress of industry and technology have a positive impact on the environment because of improving the quality of human life. But on the other hand humans also began to fear the existence of environmental pollution caused by the progress of industry and technology. This is easy to understand because if the environment has been polluted then the natural carrying capacity for human survival will be disrupted. If this happens then the effort to improve the quality of life or the comfort of human life will fail.

The impact of environmental pollution affects not only the natural environment, but also the effect on the life of plants, animals and humans as well. If the natural

environment has been polluted, of course the plants that grow in the environment will be polluted, as well as the animals that live there. In the end humans as omnivorous living beings will also feel the impact of the pollution. Environmental pollution is the inclusion of substances, energies, elements, or other components that are detrimental to the environment due to human activities or natural processes. Based on its nature, pollution can be divided into 3 groups, the following: 1) Chemical contamination, caused by organic or inorganic chemicals, 2) Physical contamination, caused by liquid (industrial waste), solid (garbage) or gas (smoke), and 3) Biological pollution, caused by various kinds of disease-causing microorganisms.

Based on the resources and environmental sector, environmental pollution can be divided into 4 groups: 1) Water contamination, ie the inclusion of substances, energy, elements, or other components into the water causing the quality of water disrupted, 2) Pollution is mainly caused by the use of pesticides excess, discharge of industrial waste chemicals, or mining, 3) Air pollution is the inclusion of matter, energy or other components into the air environment and result in decreased air quality, and 4) Sound pollution, where sound or noise can pollute the environment when sound disturbs the environment of organism settlements (Aryawardana, 1995).

Humans as the highest living beings in this world of life depends on the natural resources that exist in the surrounding environment. As a basic human need for air to breathe, water for drinking, bathing, washing and others. During his lifetime humans also need to remove unnecessary dirt back into the

environment. Waste air returns to the air, wastes back to the hydrosphere and solid waste back to the ground. In the end, a growing waste will make the environment unable to clean itself and cause pollution in the environment (Slamet, 2005).

In Law no. 32 of 2009 on the basic provisions of environmental management, it is mentioned that "environmental pollution" is the entry or entry of living things, substances, energy and / or components either into the environment and or the change of environmental order by human activities or by natural processes so that the quality of the environment down to a certain level that causes the environment to be less or can not function again in accordance with its designation. Environmental damage can be caused by natural and human factors. Humans play an important role in maintaining environmental balance. Environmental pollution is the change of order in the environment by human activities or natural processes so that the environmental quality down to a certain level that causes the environment to be less or can not function as it should be.

Schwartz (1977) states, "Environmental actions and issues are often involve collective or community goods, such as water and water. Therefore, individuals may feel the moral obligation to take into consideration both humans and the nonhuman world in evaluating entrepreneurial behaviors. Schwartz's norm-activation theory "The above understanding indicates that action on the environment often involves many people, such as on air and water issues. Furthermore, people feel moral responsibility in considering

the behavior of humans and other creatures in their activities on the environment.

Based on some of the above description, it can be concluded that environmental pollution is the inclusion of foreign materials (substances, energy, elements, or other components) that can harm or cause disturbance to the lives of humans, animals and plants.

RESEARCH METHODS

This study aims to determine the relationship of knowledge of housewives about the knowledge of pollution, with environmentally sound waste management in the city of Makassar. The type of research is quantitative research. The study population was all housewives in Rappocini District of Tidung urban village of Makassar, with the number of 1,883 housewives. Sample selection was done by random sampling method with 90 sample of housewife. The data collection was done by the test to measure the respondent's knowledge about the pollution. The technique of data analysis is done by descriptive analysis and simple regression with SPSS software, that is see how big the relation of knowledge of housewife about contamination (X), with environmentally sound waste management variable (Y) and the result of the analysis is used as materials to draw conclusions from this study.

RESULTS AND DISCUSSION

Result

Number of housewives who became respondents in this study = 90 people. All respondents were given Tests about pollution knowledge. Furthermore, respondents'

answers are further analyzed to determine the level, knowledge of pollution, and participation of respondents in environmentally sound waste management in

Makassar. Here is the result of descriptive statistical analysis of test results given to housewives who become respondents.

Table 1. Descriptive statistical analysis of environmentally-based waste management by housewives in Makassar city

Statistic analysis	Pollution Knowledge	Participation
Mean	15.7444	63.8111
Standar Deviation	2.41047	15.05264
Variance	5.810	226.582
Median	15.0000	55.5000
Minimum	13.00	47.00
Maximum	21.00	95.00
Range	8.00	48.00
Skewness	1.489	.739
Kurtosis	.704	-1.008
N	90	90
Sum	1417.00	5743.00

Source: Data Analysis Results

Based on the results of descriptive statistical analysis in the table above, can be described as follows:

Description of the knowledge variables on pollution

Based on the results of the analysis, obtained the average value = 15.7444;

standard deviation = 2,41047; variance = 5,810; a minimum value of 13 and a maximum value of 21. These values can be classified based on very low, low, medium, high, and very high criteria. Based on the pollution knowledge classification guidelines can be seen in table 2.

Table 2. Description of variables of pollution knowledge of housewives in Makassar

Criteria	Indicator	Frequency	%
very low	0-5	0	0
Low	6-11	0	0
Medium	12-17	75	83.14607
High	18-23	5	5.617978
very high	24-29	10	11.23596
Total		90	100

Source: Results of data analysis

Based on the analysis results in table 2 above, it is seen that as many as 75 people from 90 respondents have the level of knowledge of pollution is in the medium category, 5 people are in high category, and 10

people are in very high category. Thus it can be said that the level of knowledge about the pollution of housewives in the city of Makassar is in the medium category. (Diagram can be seen in figure 1).

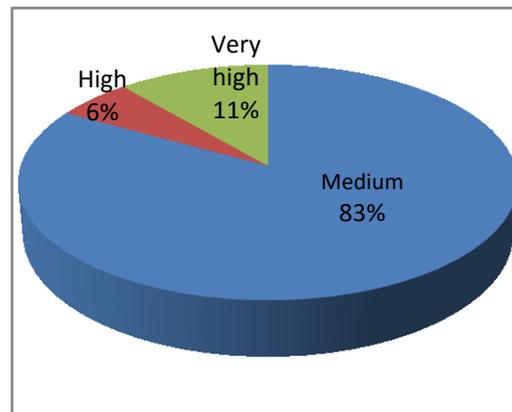


Figure 1. Diagram of Pollution Knowledge Level

Description of participation variables of environmentally sound waste management.

Based on the results of the analysis, obtained the average value = 63.8111; standard deviation = 15.05264; variance =

226,582; a minimum value of 47 and a maximum value of 95. These values can be classified based on very low, low, medium, high, and very high criteria. Based on the classification guidelines of participation can be seen in table 3.

Table 3. Description of participation variable of environmentally sound waste management of housewives in Makassar City

Kriteria	Indikator	frekuensi	%
sangat rendah	25-45	0	0
rendah	46-66	58	64.04494
sedang	67-87	17	19.10112
tinggi	88-108	15	16.85393
sangat tinggi	109-129	0	0
total		90	100

Source: Results of data analysis

Based on the analysis in table 3, it was seen that 58 people from 90 respondents had participation in low category, 17 people in medium category, and 15 people in high category. Thus it can be said that housewives

in the city of Makassar have a low participation rate on environmentally sound waste management. (Diagram can be seen in figure 2).

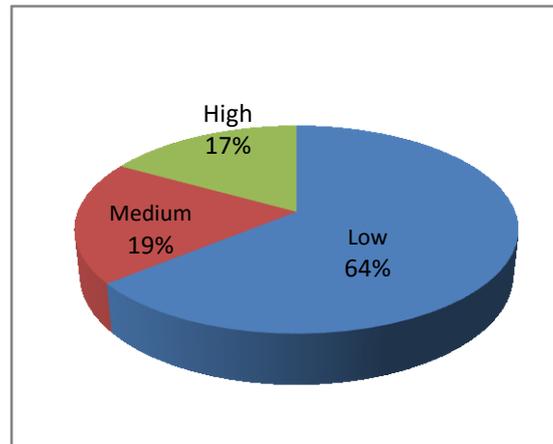


Figure 2. Participation level of housewives to environmentally sound waste management in Makassar city

Discussion

The relationship between the knowledge of pollution, with the participation of housewives in environmentally sound waste management in Makassar City can be seen in the relation of free variable that is knowledge about pollution, with dependent variable that is their participation in environmentally sound waste management as follows:

The relationship of knowledge of pollution with the participation of housewives in environmentally sound waste management in Makassar City

This section describes the relationship between the knowledge of pollution (variable X) with the participation of housewives (variable Y). Based on the results of data analysis performed with simple regression analysis techniques, it appears that the value of $-P(\text{sig}) = 0,000$. The value is $< \alpha = 0.05$. In the hypothesis testing, if the $P\text{-value}(\text{sig}) < \alpha$, then there is a significant relationship between the variables of pollution knowledge (variable X) and the variable of participation of housewife (variable Y). Thus it can be said

that there is a positive relationship between the variables of pollution knowledge (Variable X) with the participation of housewives (Y).

In simple correlation calculation between variable of pollution knowledge (variable X) with participation of housewife (variable Y) yielding correlation coefficient (r) equal to 0,322. If this value is interpreted qualitatively based on correlation coefficient interpretation guideline (Sugiyono, 2009) it can be stated that the relation of knowledge of pollution with the participation of housewife is included in low category.

The strength of the relationship between the variables of pollution knowledge (Variable X) with the participation of housewife (Y) can also be known from the calculation of the coefficient of determination. The coefficient of determination for these two variables is 0.104. This value gives an understanding that 10.4% variance variable of housewife participation in environmentally sound waste management is explained by pollution knowledge variable.

Based on the result of simple linear regression analysis between the variable data

pair of pollution knowledge (Variable X) with the participation of housewife (Y) it can be seen that the regression coefficient is 2,377 and the constant value is 24,975. Thus, the form of relationship between the variables of pollution knowledge (X) and participation (Y) can be expressed in the regression line equation, namely:

$$\hat{Y} = 24,975 + 2,377 X$$

To find out whether the regression equation model can be used to draw conclusions or whether the regression line equations that have been obtained are significant or not, it can be known by using variance analysis (F-test). The rating criterion is if the significance value is $<\alpha$ or $p_{sig} < 0.05$. From the calculation results in Anova table, obtained value of significance = 0,000. The value is < 0.05 . Therefore the regression equation $\hat{Y} = 24,975 + 2,377 X$ can be used to explain and draw a further conclusion about the relationship between pollution knowledge and the participation of housewife.

CONCLUSION

Based on the description of the research and discussion above, so it can be concluded that: 1) there is a positive relationship between the knowledge of pollution with the participation of housewives in environmentally sound waste management in Makassar city, 2) the higher the knowledge of the higher the pollution participation in environmentally sound waste management.

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