Knowledge-Attitude-Practice Method Analysis As A Guide For Kasomalang Kulon Village Waste Bank Planning

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Abstract. Waste management is a systematic, comprehensive and sustainable activity that includes the reduction and handling of waste. Waste bank is one of the strategies to implement 3R in waste management at the community level. The Hamlet 01 of Kasomalang Kulon Village has not yet a proper procedure to treat and manage the solid waste. The objective of this research is to analysis the readiness of the community to operate the waste bank. The sampling method used is Non Probability Sampling with Purposive sampling technique. The condition of the community's readiness for waste management is obtained by the KAP (Knowledge, Attitude, Practice) method. KAP results are showing that the level of community knowledge is high with positive attitudes, and practices are also high. This indicates that the community is ready to manage household waste, including operating a waste bank.

1. Introduction

Law No. 18 of 2008 concerning Waste Management explains the principles in managing waste are to reduce, reuse, and recycle [1]. Even though the current lifestyle of the community, in waste management is rarely managed and reused [2]. The community only collects waste in each house, then the waste is collected by PENSIL (Environmental Lovers) officers. After that the officer brought the waste that was transported by the waste truck to be directly thrown to Panembong Landfill Subang.

Waste management in Kasomalang Kulon Village has not been done properly. Even the people in Kasomalang Kulon Village have not implemented it according to Regulation of the Minister of Public Works No. 03 of 2013 [3]. Population growth and economic improvement of the people of Kasomalang Kulon Village have significant influence and potential for waste generation that will occur in the future if the handling and management are not carried out properly. Overall, it can be concluded that the people in Kasomalang Kulon Village need to design the waste management system correctly and appropriately according to the conditions faced by the Kasomalang Kulon Village community.

Waste management has an interesting way through the waste bank [4]. Waste banks play an important role in applying one aspect of the 3R, namely recycle [5]. The waste bank is a waste management place that implements a 3R system and deposits a number of waste [6]. This institution was formed and agreed with the local community to collect waste that has economic value, saved up to a certain amount and time, then exchanged with a sum of money [7]. By equating waste for money or valuable items that can be saved, people eventually educated to appreciate the waste according to the

type and value that they want to sort out the garbage [8]. This "Bank" not only has been able to solve waste problem in slum areas but also able to create addition earning to urban poors [9].

The purpose of this study are (1) counting waste generation for permanent, semi-permanent and non-permanent houses in Hamlet 01 Kasomalang Kulon Village; (2) knowing the characteristics of the composition of waste in Hamlet 01 Kasomalang Kulon Village; (3) knowing the level of perception in waste management by using a waste bank through the KAP method.

2. Research methodology

The study method used is to use descriptive methods. Descriptive method is research conducted to explain or describe a variable / condition / phenomenon. Variables here are concepts that have a variety of values and can be investigated empirically.

2.1. Tools and materials

The sampling data needed for this study are:

a) Deep Interview

In-depth interviews in general are the process of obtaining information for purposes research by question and answer while face to face between the interviewer with informant or interviewee, with or without using interview guidelines [10].

b) Questionnaire

Before the questionnaire is distributed, of course there are stages of making the questionnaire first. In this plan there will be 2 (two) activities, namely the questionnaire preparation and questionnaire distribution. The questionnaire that will be used in this planning is divided into 4 stages, namely:

- Section 1: Respondent information
- Section 2: Knowledge of waste management and Waste Bank
- Section 3: Attitudes to waste and waste problems
- Section 4: Behaviour towards waste and waste problems

The measurement scale of the research instrument data on this questionnaire uses a Likert Scale and Guttman Scale. The Likert Scale is used to measure a person's attitudes, opinions and perceptions about a particular object or phenomenon. The Guttman Scale is used for any set of items, there is a single hierarchy of endorsement, acquisition (or loss), or preference [11].

Likert Scale is a measurement method used to measure the attitudes, opinions and perceptions of a person or group of people about social phenomena. Likert Scale is a non-comparative and unidimensional scale technique (only measures a single trait) naturally. Respondents were asked to indicate the level of agreement through statements given by ordinal scale [12].

Guttman Scale is a scale used for answers that are clear (firm and consistent) [11]. For example, sure-not sure; Yes No; True False; positive - negative; never before; agree - disagree; etc. So if the data is quantified, the value is only 0 and 1, or only 1 and 2 only. In this planning carried out using 2 alternatives, for the value of Agree (S) = 2 and Disagree (TS) = 1.

The distribution of questionnaires was addressed to the people of RW 01 and RW 02 which cover the area of Hamlet I Kasomalang Kulon Village. The sampling method used is Non Probability Sampling with purposive sampling technique which is a technique of determining research samples by applying certain criteria to respondents to be sampled [13].

2.2. Data analysis

Univariate analysis is used to describe each aspect of knowledge, attitudes and behavior. All data in the questionnaire is processed and presented in the form of a frequency distribution table. This method has been widely used by non-governmental organizations (NGOs) and is better known as the KAP survey. A "Knowledge, Attitudes, and Practices (KAP)" survey is a representative study of a specific population that aims to collect data on what is known, believed and done in relation to a particular topic [14]. KAP method (Knowladge, Attitude, Practice) is done by giving a score to the questionnaire

items in order to obtain a total score for each aspect, namely knowledge, attitudes, and behavior [15]. This score determination is very useful to categorize the respondents' KAP survey scores [16]. This KAP method is categorized as follows:

- Knowledge is divided into 3 categories (based on Likert scale), namely:
  a) High, if the total score is 23.34 - 30
  b) Medium, if the total score is 16.76 - 23.34
  c) Low, if the total score is 10-16.67.
- Measuring attitudes are classified into 2 categories [17], namely:
  a) Positive attitude, if the total score $\geq 66.7\%$
  b) Negative attitude, if the total score $< 66.7\%$
- Behavioral measurements are classified into 3 categories (Based on Likert Scale), namely:
  a) Bad behavior, if the total score is 11 - 18.33
  b) Enough behavior, if the total score is 18.33 - 25.66
  c) Good behavior, if the total score is 25.66 - 33

Bivariate analysis is used to examine the relationship between the level of knowledge with attitudes, knowledge with behavior, and attitudes with community behavior [18]. This analysis uses Pearson correlation test with an error rate of 5% using IBM SPSS Statistics Subscription.

3. Results and discussion

In distributing questionnaires, samples are needed. The sample is part of the number and characteristics of the population [17]. The sample in this study is the people of Hamlet I Kasomalang Kulon Village which includes RW 01 and RW 02. To determine the number of samples, data on the population of RW 01 and RW 02 of Kasomalang Kulon Village are needed. Data on the number of population and KK (Family) in Hamlet I Kasomalang Kulon Village can be seen in Table 1 below.

Table 1. Number of person and family in Hamlet I Kasomalang Kulon village.

No	RW	Male	Female	KK (Family)
1	01	714	713	470
2	02	976	949	573
Total		1670	1662	1043

The number of samples is determined using the Slovin formula. Researchers are inclined to use this formula because of its simplicity [19]. The number of samples based on the results of calculations using the Slovin formula as many as 91 samples. But in this plan, the number of respondents was rounded up to 100 samples. In this study divided into two RW for respondents so that 51 respondents RW 01 and 49 respondents RW 02.

3.1. KAP simulation result
From the questionnaire collection conducted before and after the waste bank simulation the following results were obtained:

3.1.1. Characteristics of respondents. The 10 respondents, the majority of respondents work as housewives by 5 respondents, with incomes ranging from IDR 500,000 to > IDR 1,000,000 and the last education is high school/vocational school.

3.1.2. Preliminary questionnaire results. The results of the questionnaire below are the results of the initial questionnaire of respondents who took part in a series of simulations / trials of the waste bank and filled out the final questionnaire of 10 respondents. Table 2 shows the results of the initial questionnaire covering aspects of knowledge, attitudes and behavior.

Table 2. Results of the initial questionnaire.

No	Aspect	Total Score	Categories
1	Knowledge	24.6	High
2	Attitude	87.3%	Positive
3	Behavior	20.7	Enough

3.1.3. Final questionnaire result
To evaluate the results of the simulation of the waste bank implementation, the questionnaire was distributed again after the simulation to respondents who participated in the waste bank simulation by filling out the same questionnaire as the questionnaire before the implementation of the waste bank simulation of 10 respondents. Then the following results are shown in Table 3 of the final questionnaire results.

Table 3. Final questionnaire results.

No	Aspect	Total Score	Categories
1.	Knowledge	29.2	High
2.	Attitude	98%	Positive
3.	Behavior	28.4	High

3.2. KAP analysis
The correlation test is a correlation test of knowledge, attitudes, and behavior variables of the people who were respondents during the initial questionnaire, participated in the simulation / trial of the waste bank and filled out the final questionnaire. To find out the significance of the effect of a waste bank simulation on respondents' knowledge, a Paired Sample T Test was used with an error rate of 5%. From these results obtained a significance value of 0.196 which means that it exceeds the significance limit of more than 0.05 then it does not correlate and shows that the real difference between the knowledge of respondents before and after the implementation of the waste bank simulation.

Correlation test results show that the level of knowledge of respondents is high with an initial questionnaire value of 24.6 and a final questionnaire value of 29.2 with a significance value of 0.196 and a correlation of 0.446. This shows that the waste bank simulation is influential in increasing respondents' knowledge when answering the final questionnaire.

In the aspect of attitude, the initial questionnaire showed a respondent's attitude value of 87.3% while the final questionnaire showed a respondent's attitude value of 98%. The correlation test results show that it is obtained a significance value of 0.085 which means that it exceeds the significance limit of more than 0.05 then it does not correlate and shows that there are significant differences between the attitudes of respondents before and after the implementation of the waste bank simulation. This shows that the waste bank simulation influences the attitude of the respondents when answering the final questionnaire.

In the aspect of behavior, the initial questionnaire showed a respondent's behavior value of 87.3% while the final questionnaire showed a respondent's behavior value of 98%. The correlation test results show that it is obtained a significance value of 0.053 which means that it exceeds the significance limit of more than 0.05 then it does not correlate and shows that there are significant differences between the respondent's behavior before and after the implementation of the waste bank simulation. This shows that the waste bank simulation influences the behavior of respondents when answering the final questionnaire.

The conclusion from the simulation results is if the value is positive which means that if knowledge is high then the value of attitudes and behavior will increase or, and vice versa if the value of knowledge is low the value of attitudes and behavior will also decrease.

3.3. Recommendations
Recommendations for the location of the waste bank implementation must be placed in a location that is more easily accessible by the community, namely in RW 01 C. Binong Street. The location is on the road of Hamlet I Kasomalang Kulon Village and is often traversed by the community.

The alternative of exchanging waste that can be done for the Waste Bank is by exchanging waste with groceries, household appliances, or the system of exchanging waste with cost relief taking care of administrative needs at the RT, RW, Dusun and Village levels.

Another effort that can be done is by cooperating with other parties or stakeholders to assist in the development of the waste bank program. For example with the Kasomalang Community Health Center and the practice of village midwives by providing health insurance with waste to finance health programs. The public is required to save trash every month to pay for health costs which will later be managed by the waste bank. Other stakeholders can be parties or institutions that care about waste management [20].

4. Conclusion
The results of KAP questionnaire analysis show that the people of Dusun I Kasomalang Kulon Village are ready to operate the Waste Bank in terms of knowledge, attitudes, and behavior. Some recommendations were given for Waste Bank Dusun I, Kasomalang Kulon Village, the focus was on increasing people's motivation to save at a waste bank.

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