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The Effect of Internal Factors on the Improvement of the Role of the Community and Quality of Waste Bank Management "Mekar Asri" in RT. 5 RW. XVI, Mojosongo Sub-District, Surakarta City, Indonesia

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Abstract:
The purpose of this research is to determine the description of motivation and cooperation of RT 5 RW. XVI community members in Mojosongo managing waste bank, as well as the influence of motivation and attitude of society in improving the quality of waste bank management. The research was conducted on the community in RT. 5 RW. XVI MekarAsri urban village Mojosongo, Jebres District, Surakarta City, Indonesia. The sample included all the 85 heads of families living in the site location. Data analysis was conducted using descriptive statistic and a structural model to determine the direct and indirect influence on internal factors and predisposition that influence the citizen in waste bank management. The results exhibited that community efforts in increasing participation and quality of waste management of MekarAsri banks are quantitatively increased annually. This was evident from internal factors that affect the performance of waste bank management directly influenced by motivation and attitude, and indirectly influenced by knowledge through attitude and income through motivation. This indicated that in the waste bank management, community residents of RT 5 RW XVI were more motivated to earn income with the knowledge that motivates how people think to increase their income through their participation in waste bank management.

Keywords:*motivation, management, waste bank, performance*

I INTRODUCTION

Waste is the residual daily activities of human and/or natural processes in solid form (Act RI No. 18 of 2008 on Waste Management). The waste problem is a major challenge faced by cities around the world. Problems in urban waste management not only occur in big cities but also occur in small towns possessing high density and the existence of high economic activity as well. The increase in population is one of the factors of increasing the amount of waste. Currently, the amount of waste produced by humans is increasing and not comparable to the population, type of activity, and level of population good consumption.

Data from the Ministry of Environment of the Republic of Indonesia states that every Indonesian population on average produces 0.8 kg of waste or equivalent to 200 million kg/day of total population (Hasnam, Syarief, and Yusuf, 2017). The amount is still smaller compared to the amount of

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waste produced by every resident in Brazil, which is estimated at 1,223 kg/ population/day (Lucas, et al., 2013). Although the average amount of waste produced by every Indonesian citizen is smaller than the average waste generated by every Brazilian, Indonesia should still be more vigilant to prevent and reduce the increase in the amount of waste to anticipate the emergence of more serious environmental problems.

In addition to these figures, data released by the Ministry of Environment (KLHK) of the Republic of Indonesia in 2017 states that waste generation in Indonesia has reached 175,000 tons/day or equivalent to 64 million tons/year. Waste management is conductedusing the following methods: transported and stacked in the final processing place (TPA) 69%; buried 10%; composted and recycled 7%; burned 5%; and unmanaged 7% (Monita et.al., 2017).

Referring to KLHK data, waste management efforts in Indonesia are still highly concentrated in TPA (downstream) without going through the 3R (reduce, recycle, reuse) process from waste source (upstream) by involving community participation (Navarro et.al., 2017). This condition is a major factor which causes a heavy burden to landfill and shortened its usage age (Suyanto, in Monitaet.al.,2017).

The Law of the Republic of Indonesia Number 18 of 2008 on Waste Management has mandated that the paradigm and conventional waste management system with the concept of end-of-pipe run by the government and society can be changed or replaced with the paradigm and system waste management that focuses more on efforts to reduce and manage waste from its source (upstream) through the concept of 3R (Reduce, Reuse, and Recycle). However, the implementation of 3R activities in the community is often constrained by the lack of awareness and community awareness to sort and process the waste independently.

Current waste management models are; landfill, on-site handling, collection, transportation, processing and final processing (Setiadi, 2015). Waste management with end-of-pipe treatment system is one of the methods of handling waste that has been practiced for a long time. Therefore, it is not surprising that environmental problems caused by waste always occur repeatedly. The increasing number of waste piles that enter the landfill is in line with the increasing population and community consumption patterns. It causesthe TPA to be always overloaded (Overload). Based on this occurrence, the waste management system with end-of-pipe treatment system should be changed with a more environmentally friendly system and involve the active participation of the community (community-based).

Community-based and independent waste management programs are intended to deal with waste issues which possess economic benefits and value before waste reaches landfills, both temporary waste disposal sites (TPS) and final processing sites (TPA). The waste management activities include waste sorting, reuse and recycle from the source (upstream) which aims to reduce the amount of waste generation (reduce). This becomes an effective, functional, adoptable and sustainable waste management system as stated by Topic and Biedermann (2015). Government policies encourage efforts to reduce waste from its source and involve the participation of the communities proved to reduce the amount of waste generated by households. It can reduce the cost of urban waste processing. This fact is stated as a research result of research conducted byHongyunet.al., (2016) in China.

Mojosongo urban village is one of the villages in Surakarta City possessing the most landfill sites, starting from the temporary waste disposal site (TPS), to thelargest waste dump in Surakarta City, PutriCempo's final waste processing site (TPA) as large as 17 hectares. The amount of waste dump produced by Surakarta residents is 394 tons/day.

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This is a considerable amount (Rahman, 2017). In 2005, the public awareness, especially in RT (Neighborhood Association). 5, RW (Community Association). XVI, Mojosongo Urban Village, JebresDistrict, at the initiative of the local RT chairman named Sukirno, a waste bank has been formed.

Waste Bank is a social engineering activity that teaches people to sort out waste as well as foster awareness and public participation in waste management wisely and environmentally friendly. This activity is expected to reduce the volume of waste disposed to the Temporary Disposal Site (TPS) or to the final processing place (TPA) significantly in order to reduce the environmental burden. Waste bank establishment is an initial momentum to build collective consciousness of the community to start applying 3R principles or techniques (Reduce, Reuse, Recycle) in managing household waste because some types of waste can still be utilized and have economic value.

Mr. Sukirno seeks to arouse awareness and community awareness to manage waste through the establishment of the waste bank. In establishing the waste bank, Sukirno cooperated with one of the citizens who work as an academician at a State College (PTN) in Surakarta, Mr. Pranoto. This collaboration resulted in a waste bank named Waste Bank "Mekar ASRI" which is currently still operational. The Waste Bank manages household waste from houses in local RTs then collected and processed further independently. This achievement was achieved due to the support and cooperation of citizens in the management of household waste.

Since its establishment, the "MEKAR ASRI" waste bank has grown rapidly in its management. It is capable of producing various handicrafts from inorganic waste, compost from organic waste which has an important role in organic agriculture (Harjo et. al., 2014). All the products produced are trade products andposses economic value, therefore can finance the bank's waste operations independently as well.

One of the factors that motivated the initiators to build a waste bank as previously described is the desire to increase community awareness of waste management starting from household waste. Public awareness could not be established without any encouragement, motivation, and cooperation.Thecommunity possesses a high dedication to realizing the cleanliness of the environment because there are still many people who throw waste carelessly to the bushes, rivers and water channels. If the behavior is continued, it can cause water contamination (Djoharam et al., 2018).

According to Notoatmojo (2010), a person's or community behavior on health is determined by knowledge, education, attitudes, beliefs, traditions. It differs based on the person or society concerned. In addition, the availability of sanitation facilities and environmental sanitation services are also very influential. In the general sense, it can be inferred predisposing factors as a personal choice that triggers an individual or group into an educational experience. This choice can support or hinder health behavior. Demographic factors such as socioeconomic status, age, sex and family size are also important as predisposing factors even though they are beyond the direct influence of health education programs.

Demographic factors are factors in population structure and development such as age, education, occupation, income and so on (Jovičić., Et.al., 2009). Age is an important variable in the field of community research. Age is one of the factors that influence the progression of the disease directly or indirectly along with other variables, causing differences between morbidity and mortality rates among people or groups of people (Chandra, 2008). Internal factors such as age, sex or education as mentioned in the Kim et al (2016) study where most of the informants were male (33.33%) with age 63 years old (28.53%) who graduated from junior high school (36.64%), employment in

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agriculture (58.33%). Based on the results of this research, it was found that differences in education or knowledge level and understanding of the separation of household waste exhibit differences in problem-solving.

The Waste Bank program is one of the community-based waste management, which integrates the 3R principle of reduce, reuse and recycle by managing the waste as close as possible to the source. Reduce is an attempt to reduce the incidence of waste. Reuse is an effort to reuse waste or used goods, while recycle is an effort to recycle waste into other goods with economic value (Nugraha et.al., 2018; Lucas et., Al., 2013).

Waste banks management is principally conducted from, by, and for the community itself. Like most waste banks, the "MEKAR ASRI" waste bank has a management system carried out from, by, and for RT. 5 RW. XVI, Mojosongo community. Without the participation of the society and professionalism in its management, it is impossible that the organization of the waste bank is capable of performing well.

The main issues presented in this research are: a) How are the efforts of the community in improving the participation and quality of waste bank management "MEKAR ASRI"?b) Is there an influence of internal factors on the increasing role and quality of waste bank management "MEKAR ASRI"? So the objectives are: a)Provides an overview of the motivation and cooperation of RT community members in Mojosongo in waste banks management.b) To know the influence of internal factors on increasing the participation and quality of waste bank management "MEKAR ASRI".

II MATERIAL AND METHODS

This research is a quantitative descriptive research with cross-sectional approach. Data collection techniques were done by giving questionnaires to RT. 5 RW. XVI residents in Mojosongo Urban Village, Jebres District, Surakarta City. Data analysis was conducted using descriptive statistic and a structural model to determine the direct and indirect influence of internal factors and predisposition that influence the residents in waste banks management "MEKAR ASRI".

The samples used convenience sampling method because the number of household heads in one RT were 85 respondents (head of the family). Data analysis techniques to determine the influence of each variable used structural method (SEM analysis) as the research conducted by Utomo,et.al., (2012) using PLS tool. This research was conducted using IBM AMOS version 21 as a data processing tool [1-26].

III RESULTS AND DISCUSSION

1. Research Finding

The research model was based on the influence of each in-categorized as represented by each research variables such as education, knowledge, income, motivation, and attitude toward the performance of waste bank management. It is exhibited in the following figure:

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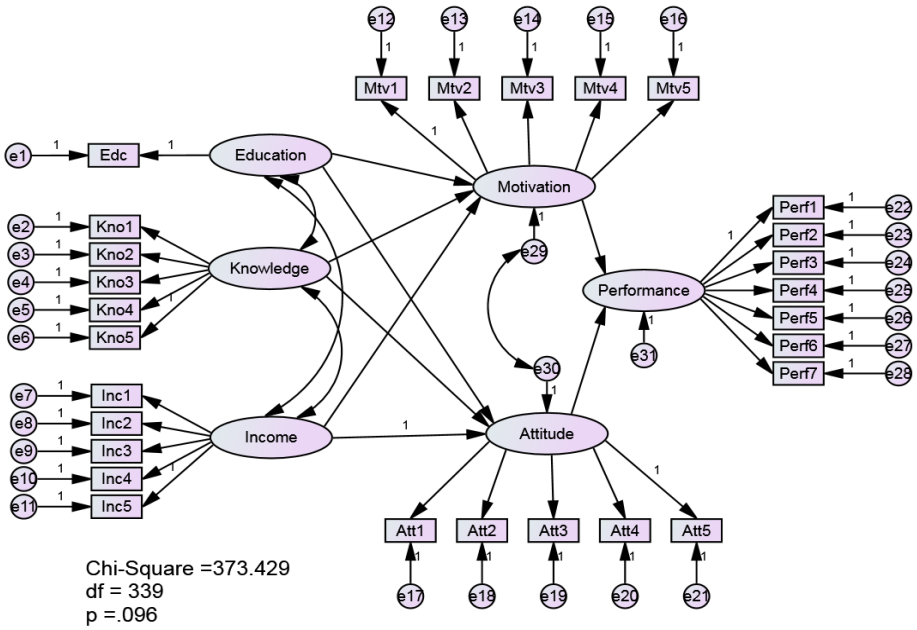

Fig.1. Research Model

The test model as shown in figure 1 above produces Chi-Square of 373,429 (p = 0.096) indicating that the model has structurally satisfied the assumption of data adequacy and the model is fit. Therefore it can be concluded that the measurement of influence among the related variables can be used as an estimate of the proof of further causal relationship.

The results of model testing for proof of hypothesis using IBM Amos version 21, is described in the following table:

Table 1
Regression Test Result

			Estimate	S.E.	C.R.	P
Mtv	<---	Edc	.040	.125	2.321	***
Att	<---	Edc	.071	.234	2.304	***
Mtv	<---	Know	-.006	.179	-.032	.974
Att	<---	Know	.541	.491	3.103	***
Mtv	<---	Inc	.824	1.676	2.492	***
Att	<---	Inc	1.000			
Perf	<---	Mtv	13.218	14.032	3.942	***
Perf	<---	Att	1.943	1.571	2.237	***

Hypothesis testing, especially the influence of internal factors, namely motivation and attitudes on the performance of waste bank management is shown by the correlation of Perf<--- Mtv and Perf<--- Att variables possess significant influence. This indicates that motivation has a significant effect (p <0,05) on the performance of partial bank waste management and also significant (p <0,05)

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attitude toward partial bank waste management. The influence of education, knowledge, and income are predisposing variable which have significant influence (p <0,05), among others, education on motivation (Mtv<--- Edc), education on attitude (Att<--- Edc), knowledge of attitudes (Att<--- Know), and income on motivation (Mtv<--- Inc). While knowledge of motivation (Mtv<--- Know), and incomeon attitude (Att<--- Inc) have no significant effect (p> 0,05) [27-29].

Examination result using structural method for model measurement found that the performance of waste bank management is influenced by motivation (Perf<- Mtv) proved with p <0,05 and CR 3,942 at significant level 0,05 t-table for N = 85 is known t-table = 2,000, hence producing CR> 2 or statistically significant. Thus it can be concluded that the motivation directly affects the performance of waste bank management. Attitudes influenced the performance of waste management (Perf<- Att), proved p <0.05 and CR of 2.237 at a significant level of 0.05 t table for N = 85 known t-table = 2,000, thus CR> 2 or statistically significant. Thus it can be concluded that attitudes directly affect the performance of waste bank management.

Motivation and attitudes are internal factors of individual citizens RT. 5 RW. XVI who have the motivation and attitude to cooperate in solvingthe waste problem. While predisposing factors such as education, knowledge, and income are indirect predisposing factors which have an effect on performance through motivation and attitude. Mtv<- Edc sign level. 5% p = 0,000 or p <0.05 and Att<- Edcsign.level 5% p = 0,000 or p <0.05.

IV DISCUSSION

2.1 Community Participation

Since the establishment of the waste bank "MekarAsri" in RT. 5 RW. XVI Mojosongo which was pioneered by the head of RT at that time initially only had 10-15 members. In its annual development, it increased along with the growth of the number of residents in RT. 5 RW. XVI Mojosongo until at the time of research conducted.The members increased up to 90 heads of family. The development of the participation of the community waste bank members can be described graphically as follows:

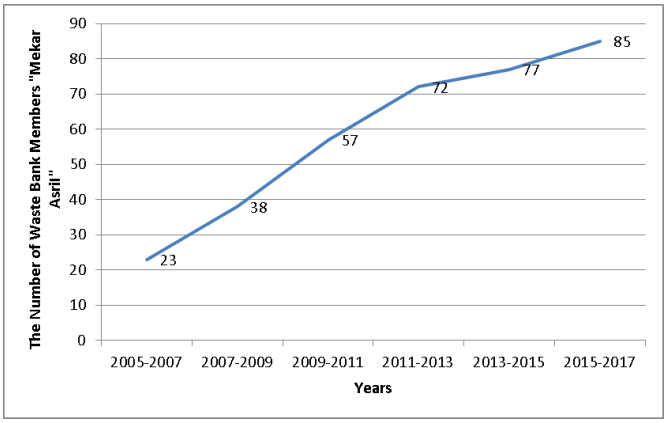

Fig. 2.The growth of Total Members of MekarAsri Waste Bank Graph

Based on the graph in figure 2 it appears that the number of waste bank members "MEKAR ASRI" increases along with the development of the population of RT. 5 RW. XVI. It can be concluded that despite the population rise and fall, the development of waste bank member always improves.

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2.2 The Influence of Motivation and Public Attitudes towards Increasing Participation and Quality of Waste Bank Management

Examination result using AMOS software version 21 exhibits a significant influence on the motivation on the performance waste bank management. This indicates that the residents of RT. 5 RW. XVI Mojosongohas the motivation or desire to take part in waste management in the waste bank "MEKAR ASRI". The motivation of these people is mainly driven by the desire to maintain the cleanliness of the environment in addition to getting added value from becoming a member of the waste bank. As stated by Stoner in Soekidjo (2009: 125), the performance of a worker or an employee is influenced by motivation, ability and perception factors. This is in accordance with Hasnamet.al., (2017) research that motivation is one of the internal factors capable of giving influence to the continuation and development of waste bank management in Depok city.

Influence of attitude variable to waste bank performance have a significant effect, it means that citizens of RT. 5 RW. XVI Mojosongo has the attitude to immediately conduct something useful to waste banks management. This is in line with Zulfina and Faisal (2012) studies, that attitudes have a significant effect on performance.

In addition to a good level of discipline, attitude can lead to better thinking in the development and waste bank management. Such as making compost from organic waste, and making handicrafts from inorganic waste. In line with Ichrom et.al., (2015), the implementation of the 3R TPS is not only concerned with social issues in order to encourage a change of attitude and mindset towards the realization of environmentally friendly and sustainable societies but also concerning proper management within the implementation.

Education, knowledge, and income in this study are the variables that can indirectly influence the motivation or attitude. The result of the research shows that education influence motivation and attitude directly, knowledge only have a significant effect on attitude, and income only influences motivation. It indicates that education, knowledge, and income can possibly indirectly affect the performance of waste management. In line with the research of Nonon et.al., (2009) which examines the contribution model of various community factors participation in waste management that education and income possess indirect significant effect through attitudes and behaviors on community participation in waste management.

V CONCLUSION

Participation of RT. 5 RW. XVI Mojosongo in waste residents in bank management is evident from the increasing participation in waste bank membership annually. This was influenced by the motivation and attitude of the residents in managing the waste bank, as indicated by the results of this study where the motivation, and attitudes significantly influence the performance of waste bank management.

In addition, the results of the study also show that education directly affects both motivation and attitude, knowledge only has a significant effect on attitudes, and income only affects the motivation. It indicates that education, knowledge, and income could indirectly affect waste management performance through attitude and behavior.

Based on the research result,there are several suggestions to be submitted. The need for socialization and assistance programs from the government through the relevant agencies to ensure the public would take appropriate action and have high motivation in managing the waste bank "MEKAR ASRI" to the professional levelas motivation and attitude are indirectly influenced by knowledge and income. Furthermore, the government also needs to encourage people, especially low-income citizens to participate in the

management of "MEKAR ASRI" waste bank, as they have the opportunity to profit economically and increase their income.

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