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Community Knowledge in Waste Management at Lemahmekar and Plumbon, Indramayu Regency

Ira Puspita Windiari[1], Mutiara Salsabiela[2], Nurlaili Fauziah[3]

[1,2,3] Fire and Safety, Balongan Oil and Gas Academy
Jl. Soekarno Hatta, Pekandangan, Kec. Indramayu, Kab. Indramayu, West Java 45261

Email: iwindiari@gmail.com

Abstract

The problem of waste is closely related to aesthetic problems. Garbage is the remains that have been taken as the main part or have undergone certain treatments. Some people view waste as material that is no longer used. From environmental management point of view, waste is an element/substance that can cause pollution to environmental sustainability. The purpose of this study was to determine the level of Community knowledge on waste management in Lemahmekar and Plumbon, Indramayu Regency. This study using questionnaire which given to 60 household. Respondents were determined using the Simple Random Sampling technique. The research approach used descriptive qualitative. Data was carry out by scoring method (based on Likert scale) and Spearman's Correlation test. The results of community knowledge in Lemahmekar and Plumbon showed different results. The level of community knowledge in Lemahmekar show the high category with a percentage of 63.33 %. Meanwhile, the level of community knowledge in Plumbon show low category with a percentage of 63.33 %. This means, people in Lemahmekar have better knowledge on waste management than the people in Plumbon. Based on the results of the Spearman's Correlation test, it shows that the level of education has an influence on knowledge of waste management with a value of +0.651 and +0.826, both of which indicate the level of correlation in a positive direction. This shows that the higher a person's education level, the better knowledge of waste management will be.

Keywords*: Education; Garbage; Knowledge; Management; Waste.*

A. Introduction

Garbage is a serious global problem for Indonesia. The problem of waste in Indonesia is a complicated problem because many people do not care about the causes and effects of the waste produced. The lack of waste infrastructure facilities provided by the government in managing waste can exacerbate waste management problems in Indonesia. Garbage is the remains of daily human activities and/or natural processes in the form of solids that are no longer useful and must be managed so as not to harm the environment and to protect development investments (Undang-undang No 8 Tahun 2008 and Badan Standardisasi Nasional 2002). The definition of waste according to WHO (World Health Organization) is something that is not used, not used, not liked or something that is thrown away from human activities and does not happen by itself.

Based on Law 18 of 2008, waste consists of household waste, household-like waste and specific waste. Household waste comes from daily activities in the household such as food waste and plastic bottle waste. Types of household waste, derived from the rest of the activities of commercial areas such as shops and public facilities such as train stations. While the specific waste comes from waste that arises as a result of natural disasters.

Garbage as a material that is no longer used can affect environmental conditions if it is not disposed of and managed properly. Garbage is a waste material as a result of human and animal activities which are materials that are no longer used, so that they are disposed of as useless items (Sudarso 1985). However, if the waste is secured and managed, it will not cause potentials that affect the environment. However, if the waste is not managed and handled properly, it can cause pollution which directly or indirectly affects environmental health.

In general, garbage disposal that does not meet environmental health requirements will become a breeding ground for insects and rats (Sabella, 2014). Garbage disposal can also be a source of soil contamination, groundwater sources or water in the soil and air, and can be a source and a place to live for germs that endanger healt (Tchobanoglous, 1993). Waste is a national problem whose management needs to be carried out in a comprehensive and integrated manner from upstream to downstream in order to provide economic benefits, health for the community and is safe for the environment and can change people's behavior.

Waste management is a systematic, comprehensive and sustainable activity that includes waste reduction and handling (Undang-undang No 8 Tahun 2008). A new approach or paradigm that can be applied in waste management is waste minimization . Waste can be reduced, reused and or recycled or what is often known as the 3R (R1: Reduce, R2: Reuse, R3: Recycle) (Undang-Undang No 8 Tahun 2008). This paradigm is actually not something new because it has been widely applied by developed countries and has succeeded in significantly increasing management efficiency (Damanhuri, 2007).

Evidence of the seriousness of the Indramayu Regency Government in waste management is evidenced by the issuance of Regional Regulation (Peraturan Daerah No 2 Tahun 2012) concerning waste management, landscaping and cemeteries as well as public street lighting. However, actually waste management is not only the responsibility of the government as the organizer of waste in an area, it requires community contributions in overcoming the waste problem in the region.

Waste management applied by the community is related to various internal factors that exist within the community it self (Qadim 1998). These factors include knowledge. Therefore, it is necessary to analyze the level of community knowledge in waste management. That is the aim of this research.

The existence of Lemahmekar and Plumbon in Indramayu Regency, provides an overview of different community knowledge in terms of waste management. This waste management behavior is seen based on the knowledge of the people who live in Lemahmekar where this area represents an area served by the city waste management system and Plumbon which represents an area not served by the city waste management system.

B. Research Methods

The approach method used in this study is a descriptive quantitative approach, which is an approach to explore and understand the meaning of individuals or groups related to social problems (Creswell, 2011). This research was conducted in RT 01 RW 04 Lemahmekar to represent the served area and in RT 04 RW 02 Plumbon to

represent the unserved area of the municipal solid waste management system. The criteria for served and unserved areas of the waste management system are based on:

Table 1
Criteria for Serviced and Unserved Areas

No	Criteria	served	Unserved
1	Region Location	In the city center	On the outskirts of town
2	Population density	Tall	Low
3	Difficulty level of garbage transportation	Easy	Difficult
4	Environmental conditions	Waste managed, clean environment	Unmanaged waste, dirty environment

Source: (Damanhuri, 2011)

Respondents in this study were selected using the Simple Random Sampling technique. Each region is represented by 30 respondents so that the total respondents for the two regions are 60. The respondent is the head of the family, this election is based on the role of the head of the family as a decision maker in a family. Determination of the number of respondents as many as 30 (heads of families) in each location, was based on the minimum number of respondents taken in quantitative research (Arikunto, 2002). Age, occupation, education level and average monthly income of respondents are the characteristics analyzed in this study.

The type of data used in this study is primary data. Primary data is obtained by giving a questionnaire to the community to determine the level of knowledge. In addition, primary data obtained from observations in the research area. The data processing in this study used a scoring method (based on a Likert scale), and the Spearman's Correlation Test was used to see the level of community knowledge . Data processing also uses the Spearman's Correlation Test to determine whether there is a relationship between the level of community characteristics and the knowledge of the community itself. Community knowledge in waste management is assessed from knowledge of the concept of waste, knowledge of the negative impacts of waste, knowledge of waste management activities and knowledge of Indramayu Regency regulations and waste management programs. The total questions regarding community knowledge in waste management consist of 23 questions.

The results of the questionnaire will be assessed with a Likert scale, namely by giving weight to the answers given by the respondents (Sugiyono, 2014).

1. Strongly agree/strongly know, with a score of 4
2. Agree/know, with a score of 3
3. Disagree/don't know, with a score of 2
4. Disagree/don't know, with a score of 1

Of the 23 total questions, the lowest total score is 23 points while the highest total score is 92 points. The category of community knowledge level is divided into three, namely: high, medium and low with class intervals as follows:

$$I = \frac{(\textbf{Nilai}\ \text{skor tertinggi} - \text{Nilai skor terendah})}{\text{Jumlah Kelas}} = \frac{92-23}{3} = 2$$

Based on the value of the class interval obtained, it can be seen the category of the level of community knowledge.

Table 2
Knowledge Level Category

No	Category	Score
1	Tall	70 (Points)
2	Currently	47 – 69 (Points)
3	Low	49 Points)

C. Results and Discussion

a. Community Characteristics

Community characteristics are a description of the condition of a group of people/communities in a location/region. The characteristics of the community in this research include age, education level, occupation, and average monthly income.

1. Age

A person's age shows the level of maturity in thinking. Regarding waste management, people with a higher age level will have better behavior than those with a lower age level. Characteristics of the age of the people in Lemahmekar, the highest age group is 46-60 with a percentage of 46.67%, and Plumbon, the most age group is 31-45 with a percentage of 66.67%. Based on the following table:

Table 3
Age of Society

No	Age group (Years)	Ex. Weak bloom		Ds. Plumbon	
		Frequency	%	Frequency	%
1	< 30	2	6.67	1	3.33
2	31-45	13	43.33	20	66.67
3	46-60	14	46.67	9	30.00
4	60	1	3.33	0	0.00
	Amount	30	100.00	30	100.00

2. Level of education

The level of education plays an important role in the absorption of existing knowledge and information. Someone with higher education is possible to have better knowledge and reasoning. The research data shows that the level of education of the people in Lemahmekar and Plumbon, includes people who do not go to school up to university/academic graduates.

Table 4
Community Education Level

No	Level of education	Ex. Weak bloom		Ds. Plumbon	
		Frequency	%	Frequency	%
1	No school	0	0.00	1	3.33
2	Graduated from elementary school	0	0.00	17	56.67
3	Graduated Middle School	9	30.00	10	33.33
4	High school graduate	14	46.67	2	6.67
5	Graduated University/Academic	7	23.33	0	0.00
	Amount	30	100.00	30	100.00

Based on Table 4. It can be seen that the majority of Lemahmekar residents are high school graduates (SMA) with a percentage of 46.67%. The majority of the Plumbon community graduated from elementary school (SD) with a percentage of 56.67 %.

3. Work

The results showed that the majority of people in Lemahmekar (33.33%) and Plumbon (36.67%) were housewives and the community did not have a job. Based on the following table:

Table 5
Community Employment Level

No	Work	Ex. Weak bloom		Ds. Plumbon	
		Frequency	%	Frequency	%
1	Not Working / Household Mother	10	33.33	11	36.67
2	Non-permanent work	2	6.67	1	3.33
3	Farmers/Farmers	0	0.00	10	33.33
4	Trader	5	16.67	6	20.00
5	Private	4	13.33	2	6.67
6	PNS/TNI	5	16.67	0	0.00
7	Etc	4	13.33	0	0.00
Amount		30	100.00	30	100.00

4. Average Monthly Income

The level of a person's income will affect the pattern of daily consumption which also affects the volume and type of waste produced. Based on the results of the study, the average income of the people in Lemahmekar which is dominated by households with an average of above IDR 3,000,000 with a percentage of 46.6%, and the average community in Lemahmekar which is dominated by households with an average of between IDR 1,000,000 to IDR 2,000,000 with a percentage of 50%. The following table:

Table 6
People's Average Monthly Income

No	Income	Ex. Weak bloom		Ds. Plumbon	
		Frequency	%	Frequency	%
1	<IDR 300,000	0	0.00	1	3.33
2	IDR 300,000–IDR 1,000,000	1	3.33	12	40.00
3	IDR 1,000,000-IDR 2,000,000	7	23.33	15	50.00
4	IDR 2,000,000-IDR 3,000,000	8	26.67	2	6.67
5	>IDR 3,000,0000	14	46.67	0	0.00
Amount		30	100.00	30	100.00

b. Level of Community Knowledge in Lemahmekar and Plumbon

Knowledge is the result of tau, and this occurs after a person has sensed a certain object. Knowledge or cognitive domain is a very important domain in shaping one's actions (Notoatmodjo, 2012). Without knowledge, a person does not have a basis for making decisions and determining actions to deal with the problems at hand. Factors that influence knowledge include beliefs, values, attitudes and age. Increasing age, the level of knowledge will develop in accordance with the knowledge and experience gained (Notoatmodjo, 1997). The knowledge referred to in this study

reflects the extent to which the community's understanding or absorption of information regarding waste management is. Both information obtained through the media (print and electronic) and information obtained through social interaction with other communities.

The level of community knowledge is divided into three categories, namely high, medium and low. High knowledge means that the community has a good understanding of waste management. Moderate level of knowledge means that the community's understanding shows that it is in a fairly good category. Low level knowledge means that the community has a poor understanding of waste management. Community knowledge of waste management in Lemahmekar and Plumbon shows the following results:

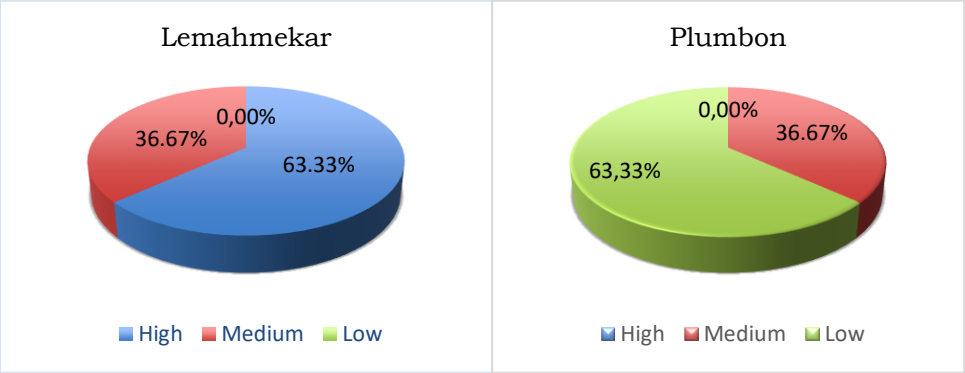

Figure 1. Community Knowledge Level Diagram

Based on Figure 1 above, the people of Lemahmekar and Plumbon showed different results. The knowledge of the community in Lemahmekar included in the high category level with a percentage of 63.33 %. This means that the community's understanding of waste management is classified as a good understanding. However, different results are shown by the low level of community knowledge in Plumbon with a percentage of 63.33%, this illustrates that the people who live in Plumbon have a poor understanding of waste management.

1. Knowledge of Garbage Concept

Knowledge of the concept of waste emphasizes the community's ability to define waste and an understanding of the types of waste (organic waste and inorganic waste). The level of Community knowledge about the concept of waste is divided into three categories, namely high, medium and low categories. The high category shows that the community has a good understanding in defining waste and the types of waste. The medium category shows that the understanding or knowledge of the community about the definition and types of waste is included in the fairly good category. The low category indicates that the community has a low understanding or poor understanding in defining waste and types of waste.

Table 7
Community Knowledge About the Waste Concept

Category	Ex. Weak bloom		Ds. Plumbon	
	Frequency	%	Frequency	%
Tall	20	66.67	3	10.00

Currently	10	33.33	13	43.33
Low	0	0.00	14	46.67
Amount	30	100.00	30	100.00

Table 7, shows that 66.67% of the people in Lemahmekar have high knowledge. This shows that most people already have a good understanding of the concept of waste.

> "Garbage is garbage, items that are no longer used. Such as drink bottles, crackle, cigarette butts, snack packs and dry leaves".
>
> "Garbage is used items, so I immediately throw it in the trash so that the house doesn't get dirty".

Based on interviews conducted with several communities, it was concluded that the definition of waste understood by the community is goods that are not used and must be disposed of immediately so that the house is kept clean. Regarding the types of waste, knowledge about these is needed as a basis for carrying out waste sorting activities. People who have high knowledge of the types of waste.

> "To my knowledge, organic waste is perishable waste, while inorganic waste is rotting waste".
>
> "Organic waste is waste that easily decomposes, for example vegetables and fruits, while inorganic waste is waste that is difficult to decompose, for example plastic and paper".

The definition of organic waste according to the people of Lemahmekar perishable waste, while inorganic waste means non-perishable waste. This definition is considered a correct understanding because the division of types of waste that are often used in Indonesia is based on whether or not the material decomposes easily or often known as organic and inorganic waste.

Regarding the knowledge possessed by the people of Lemahmekar based on the answers given by the community, it shows a clear picture of community knowledge which includes knowing and understanding. Notoatmodjo (2012) suggests that knowledge with the level of knowing and understanding is the cognitive domain of behavior. The condition of the community in Lemahmekar shows a clear picture of the cognitive domain.

The level of community knowledge in Plumbon shows different results from the level of community knowledge in Lemahmekar. Community knowledge in Plumbon is included in the low category with a percentage of 46.67%. This figure shows that some people have poor understanding. The low understanding of the community in Plumbon occurs due to community misunderstanding of the terms organic waste and inorganic waste. People feel confused whether organic waste and inorganic waste are the same as wet waste and dry waste, so people choose the answer they don't know. People's confusion is considered a natural thing because in addition to the distribution of types of waste according to whether or not a waste material is easy to decompose, the terms dry and wet waste are often used. However, the results of in-depth interviews concluded that there was a misunderstanding in the community regarding the definition of wet waste and dry waste

"I have never heard of the terms organic waste and inorganic waste. I know that wet waste and dry waste. Dry waste is dry or non-wet waste, for example leaves and paper. Wet waste, for example, plastic used for children's snacks, is basically watery waste".

The term wet waste in the community is understood as waste that has a fairly high water content, and when the waste is touched it will feel wet The term dry waste is understood as waste that because of its water content is small or even non-existent so that when touched it does not feel wet or causes a cold sensation like holding it water. This understanding, of course, is not the correct understanding. Wet waste is another term for organic waste, while dry waste is a term that refers to inorganic waste. Seeing the answers given by the people of Plumbon, in this case, there is a wrong knowledge and understanding about the concept of waste. This can show that the people of Plumbon do not really understand the concept of waste.

2. Knowledge of the Negative Impact of Waste

Garbage that is not properly handled often has a negative impact on public health and the environment Disposal of garbage into rivers or into water bodies can cause flooding and water pollution. The higher the garbage that is scattered everywhere will form an unpleasant environment for the community, unpleasant odors and bad views.

The level of Community knowledge about the negative impact of waste is divided into three categories, namely high, medium and low knowledge. A high level of knowledge means that the community has a good understanding of the negative impact of waste on health and the environment. The level of knowledge in the medium category means that the community has a fairly good understanding of the negative impact of waste. The level of knowledge in the low category indicates that the community has a poor understanding of the negative impact of waste on health and the environment.

Table 8
Community Knowledge About The Negative Impact of Waste

Category	Ex. Weak bloom		Ds. Plumbon	
	Frequency	%	Frequency	%
Tall	25	83.33	11	36.67
Currently	5	16.67	19	63.33
Low	0	0.00	0	0.00
Amount	30	100.00	30	100.00

Based on Table 8. it is known that 83.33% of the people in Lemahmekar have knowledge in the high category. These results indicate that the majority of people in Lemahmekar have a good understanding of the dangers or negative impacts of waste. Meanwhile, the level of community knowledge in Plumbon. The level of community knowledge in Plumbon is dominated by the medium category with a percentage of 63,33%. This category of moderate knowledge shows that the community has a fairly good understanding of the negative impacts of waste.

The community indicated that of the various negative impacts caused by waste such as foul smells and slum views, these were the most widely known impacts by the people who participated in this research. Methane gas produced from the

biodegradation process of organic materials causes an odor in the garbage pile. This odor is then shunned by the public

> "Garbage smells bad if you don't throw it away right away. After a while there will be flies, so mom immediately throws it into the front trash can so the house doesn't smell".

> "Garbage, if you don't throw it away immediately, the house will look dirty''.

Another negative impact of waste that is most widely known by the Community is that garbage is a breeding ground for disease vectors such as rats, cockroaches and flies. This knowledge is obtained by the community from observations and experiences when throwing garbage. People say that rats, flies and cockroaches are often seen in piles of garbage, especially in piles of garbage that have been left for a long time.

3. Knowledge of Waste Management Activities

Waste management is an effort that must be made to minimize the negative impact of waste Community knowledge about waste management activities in this study is based on an understanding of waste management activities in the household environment.

The level of Community knowledge about waste management in this study was divided into three categories, namely high, medium and low knowledge. The high category indicates that the community has a good understanding of waste management activities. The medium category indicates that the understanding or knowledge of the community about waste management activities is included in the fairly good category. The low category indicates that the community has a low understanding or poor understanding of waste management activities.

Table 9
Community Knowledge of Waste Management Activities

Category	Ex. Weak bloom		Ds. Plumbon	
	Frequency	%	Frequency	%
Tall	21	70.00	0	0.00
Currently	9	30.00	9	30.00
Low	0	0.00	21	70.00
Amount	30	100.00	30	100.00

Based on Table 9, it is known that the knowledge possessed by the community in Lemahmekar and Plumbon shows different levels. As many as 70% of the people in Lemahmekar show a high level of knowledge. This means that the people in Lemahmekar have a good understanding of waste management activities. The knowledge about waste management that is most widely known by the community in Lemahmekar that organic waste can be processed into fertilizer and inorganic waste that can be used as crafts.

> "I've seen backpacks made from clothing deodorizer packs at construction exhibitions. There's also a small purse made from kops packs and children's toys made from used cigarette packs at the DKP stand. I usually see compost and organic waste, but I don't know about fertilizers. where does it come from".

Knowledge of waste processing in the form of handicrafts was found by the community at a development exhibition in order to welcome the anniversary of Indramayu Regency. The exhibition activity which is held every year indirectly gives knowledge to respondents that waste can be processed into useful goods.

The level of knowledge possessed by the community in Plumbon based on the results is at a low category level with a percentage of 70%. The low level of knowledge shows that the people in Plumbon have a poor understanding of waste management. The low level of community knowledge can be seen from the answers given by the community . More than some people in Plumbondo not know the term 3R. This indicates that the dissemination of information in Indramayu Regency regarding waste management is still not evenly distributed

However, almost people have knowledge that waste can provide additional income. This is related to the balter culture as local wisdom that is still maintained in Plumbon. The community sorts the waste and then sells it to collectors who are often called "junk workers". The presence of junk workers in the midst of the social life of the Plumbon community indirectly becomes a pull factor for the community to keep sorting waste as an effort to preserve local wisdom.

> "I often collect junk, but the things I collect the most are plastic bottles and plastic cups. I sell these items to junkyards. Usually every week or two the junkyard workers come around the village. Obtained is not much but it is enough to help meet daily needs".
>
> "I often sell rice aking to a junkyard. The money I get is usually used to pay garbage fees every month. Besides being exchanged for money, I usually exchange aking rice with kitchen spices".

4. Knowledge of Regulations in Indramayu Regency and Waste Management Program

Knowledge of the Regional Regulation (perda) of Indramayu Regency and the waste management program intended in this study is Community knowledge of the Regional Regulation of Indramayu Regency Number 16 of 2011 concerning Hygiene Management in Indramayu Regency and the programs launched by the government in the field of waste management. The level of community knowledge is divided into three categories, namely high, medium and low categories. A high level of knowledge means that people know about the existence of local regulations and waste management programs properly. Medium level of knowledge means that the community has a fairly good knowledge of local regulations and waste management programs. A low level of knowledge means that the community has poor knowledge of local regulations and waste management programs.

Table 10
Community Knowledge About The Regional Regulation of Indramayu Regency and the Waste Program

Category	Ex. Weak bloom		Ds. Plumbon	
	Frequency	%	Frequency	%
Tall	3	10.00	0	0.00
Currently	19	63.33	3	10.00
Low	8	26.67	27	90.00
Amount	30	100.00	30	100.00

Based on Table 10, it can be seen that as many as 63.33% of the people in Lemahmekar have a moderate level of knowledge. This category level shows that most of the community has a fairly good understanding of the local regulations and waste management programs launched by the Indramayu Regency government.

The Community expressed their ignorance of the existence of Regional Regulation 16/2011, criminal sanctions against people who throw garbage in any place, socialization of Regional Regulation 16/2011, socialization of 3R activities and lack of knowledge of waste management training activities provided by the government. Community ignorance of local regulations and waste management programs launched by the government indicates a lack of information dissemination to the Community. Most people have never heard of the existence of a regional regulation socialization so they do not know about the existence of the regional regulation. Of the entire community, there were four people who answered that they knew of the existence of the regulation from a local newspaper that they had read, but the community expressed that they did not understand the contents and uses of the regulation. In relation to fines or criminal sanctions given to people who litter, as long as the Community is aware of the Lemahmekar, this has never been implemented in the environment, maybe even in Indramayu Regency. Regarding Community knowledge of with drawals retribution carried out concluded that the community in Lemahmekar was aware of the withdrawal of the waste levy. This knowledge is obtained by the community from experience when paying the clean water bill (PDAM) every month. The community said that there was an additional fee of IDR 3,000 which was added to the clean water account.

> "Several times when I paid for water at the PDAM counter, I did see a paper written on the waste retribution, if I'm not mistaken it was Rp. 3,000".

In contrast to the level of knowledge of the people of Lemahmekar, the level of knowledge of the people in Plumbon about local regulations and government programs is based on Table 10. Shows a low or poor category with a percentage of 90%. This is indicated by the fact that many people are not aware of the existence of Regional Regulation 16/2011 in Indramayu Regency. In addition, the community stated that they did not know that the Indramayu Regency government had collected a waste levy.

> "We don't know that there is a collection of garbage fees added to the PDAM account, because I and most of the residents here use well water as a water source".

The Community's ignorance of the collection of waste retribution is caused by the people in Plumbon not paying for clean water used every day. The source of water used by the community does not come from PDAM channels but from wells built individually, so there is no obligation for the community to pay for the clean water they use. Regarding the socialization of 3R activities and waste management training activities carried out by the government, the community stated that they did not know that there were such activities in their area. The rest stated that these activities might be carried out by the government, but the community never participated in

these activities due to various factors such as limited time at home. People say that they spend more time at work than at home.

> "When it comes to the house that takes care of my mother, I work to earn a living. Everyday I work in the fields, especially during the planting and harvesting seasons. Even if I can't farm, I usually become a construction worker. The important thing is that I work in a lawful manner".

c. Spearma's Corelation Test

The knowledge shown by the community in Lemahmekar and Plumbon when associated with the basic characteristics of the community will show whether there is a relationship between variables. The following are the results of the Spearman's Correlation test between knowledge and the basic characteristics of society:

Table 11
Spearman's Correlation Test Results Between Knowledge and Basic Characteristics of Society

No	Characteristics	Ex. Weak bloom		Ds. Plumbon	
		Frequency	%	Frequency	%
1	Age	0.498	0.005	×	×
2	Level of education	0.651	0.000	0.826	0.001
3	Work	×	×	0.648	0.001
4	Average Monthly Income	0.384	0.036	0.386	0.035

Spearman's Correlation test between knowledge and age characteristics of the people in Lemahmekar show a correlation. In contrast to Plumbon, there is no correlation between knowledge and the age characteristics of the community. This means that there is a relationship between age and community knowledge, although the correlation level is moderate in Lemahmekar. A person's age is related to the amount of experience gained from the results of social interactions and the results of his observations of something. The more experience you have, the higher the knowledge you get. In addition to the amount of experience gained, a person's age is related to a person's level of maturity in thinking. Related to waste management, the older a person is, the person is considered to have good knowledge, information and experience in managing waste. The characteristics of the community's age are in Table 3. Lemahmekar has the highest age group 46-60 with a percentage of 46.67% and in Plumbon, the highest age group is 31-45 with a percentage of 66.67%.

Spearman's Correlation test between knowledge and the characteristics of the education level of the community in Lemahmekar show a strong correlation. The results of the Spearman's Correlation test in Plumbon have a correlation value between knowledge and the characteristics of the level of education showing a strong correlation level (+0.826) with a unidirectional relationship. This means that the higher one's education level, the better one's knowledge of something will be. Education is needed to get information. A higher level of education allows one to get more information. Generally, the higher a person's education, the easier it is to receive information. Characteristics of education level Characteristics of education level are in Table 4. Lemahmekar known that the majority of people graduated from high school (High School) with a percentage of 46.67% and the characteristics of community education level in Plumbon can be seen that the majority of people graduated from elementary school (elementary school) with a percentage by 56.67%. The low level of education (the majority graduated from elementary school), is one of

the factors causing the low level of Community knowledge. As a result, people are less able to access information and knowledge. Under these conditions, it is natural that people have less knowledge about waste management.

Spearman's Correlation test between knowledge and the characteristics of the type of community work in Plumbon showed a strong correlation (+0.648). In contrast to the results of the Spearman's Correlation test between knowledge and the characteristics of the types of people's work in Lemahmekar, there is no correlation. This is related to the amount of free time that is owned at home. People who act as housewives show a relatively high level of knowledge compared to other types of work. The free time that housewives have is used to socialize with the community. In the process of socializing, there is an exchange of information between an individual and another individual. This process ultimately helps increase Community knowledge. The characteristics of the type of community work are in Table 5. Lemahmekar (33.33%) and Plumbon (36.67%) the majority of housewives and the community do not have a job.

Another basic characteristic that also affects people's knowledge in Lemahmekar income. The results of the Spearman's Correlation test between knowledge and the average monthly income of the people in Lemahmekar show a correlation. The results of the Spearman's Correlation test in Plumbon between knowledge and the average monthly income of the community show a coefficient value of +0.386. This means that a person's income affects his knowledge in waste management, although the level of correlation shown is weak in Lemahmekar. High income allows someone to get access to information from various media. Today, the media that is often used as a way to get information is the internet. People with high incomes are certainly not difficult to get terschut facilities. This is different for people who have low incomes. Economic factors are the reason they do not get access to these facilities. People with low incomes consider that internet facilities are tertiary or luxurious facilities so that these facilities are not the main needs of households. Based on the results of the study in Table 6. the characteristics of the average income of the people in Lemahmekar with an average of above IDR 3,000,000 with a percentage of 46.6% and Plumbon with an average of IDR 1,000,000 to IDR 2,000,000 with a percentage of 50%.

Spearman's Correlation test concluded that the level of education is the character that has the most dominant influence on people's knowledge in Lemahmekar and Plumbon. This can be seen from the correlation coefficient values obtained in Table 11. These results prove that along with the high level of education, the people of Lemahmekar have better knowledge of waste management. The level of education is also the most dominant factor in the low knowledge of the people of Plumbon.

D. Conclusion

Based on the results of the research, the level of knowledge of the community in Lemahmekar and Plumbon showed different results. The level of community knowledge in Lemahmekar included in the high category with a percentage of 63.33%. Meanwhile, community knowledge in Plumbonis included in the low category with a percentage of 63.33%. This means that the people of Lemahmekar

have better knowledge in waste management than the people in Plumbon. The results of the Spearman's Correlation test concluded that the level of education is the character that has the most dominant influence on people's knowledge of waste management in Lemahmekar and Plumbon. These results prove that along with the high level of public education, the knowledge of waste management is getting better (Devi, 2016). The level of education is also the most dominant factor in the low knowledge of the people of Plumbon.

Description of knowledge level in waste management in Lemahmekar and Plumbon can be used as a reference in formulating bottom-up policies in Indramayu Regency. The community as an actor who runs the policy should be involved in the formulation of the policy itself. so that the value of community ownership of the policy becomes greater, so that the policy is implemented without coercion.

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