Education and Training on Organic and Inorganic Waste Management for the Community of RT 1 Bunglai Village

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ABSTRACT

Waste is an environmental problem that requires serious handling. The behavior of the people of Bunglai Village RT 01 towards household waste is based on data, namely by burning it at 44%, throwing it carelessly at 34%, burying it in the ground at 18%, and throwing it into the river at 4%. This community behavior causes environmental pollution and disrupts public health. Thus, intervention is needed at the root of the problem, namely the management of organic and inorganic waste. The intervention carried out was Education and Training on Organic and Inorganic Waste Management. The methods used are Ecobricks and Takakura Compost. The results of the intervention in the community showed that there was an increase in knowledge and attitudes. The average value of the pre-test knowledge was 46.61 to 61.30 at the post-test and the average pre-test attitude score was 15.39 to 17.18 at post-test. To see the output, a pre-test and post-test Wilcoxon test was carried out, it was found that the significance value for knowledge was 0.000<0.05 and for attitude it was 0.000<0.05, meaning that there are differences in knowledge and attitudes between before and after the intervention in the form of counseling.

Keywords: Waste management; ecobricks; community behavior

INTRODUCTION

According World to the Health Organization (WHO), waste can be defined as something that is not used, is not used, is not liked, or is something that is thrown away that comes from human activities and does not occur by itself. Currently, waste is still an endless problem that society has to face. Waste is an environmental problem that requires serious handling (Lestari, Santoso, and Mulyana, 2020). In Indonesia, it is estimated that 64 million tons of waste are produced annually. The composition of waste in Indonesia, according to data from the Ministry of Environment and Forestry, is predominantly organic waste, followed by plastic waste in second place, paper, and rubber waste in third place, and lastly other types of waste such as metals, fabric, glass, and other miscellaneous waste.

Waste is the residue of human daily activities or natural processes. The issue of waste is crucial; indeed, waste can be regarded as a cultural problem due to its impact on various aspects of life.² Waste is residual material discarded by humans as a result of production activities that can no longer be

used.³ As time passes, waste becomes an environmental issue and can also extend to social problems that may lead to conflict.⁴ Waste management in Indonesia has become an important issue, driven by the increasing population leading to higher waste generation, inadequate facilities, and lack of community participation in household waste management.⁵

Waste originating from residential areas is one source that plays a significant role in increasing the volume of waste in the environment. 75% of the waste originating from residential areas or household waste consists of organic waste and the rest is inorganic. As the population increases in an area, the volume of waste will increase. The consumption pattern of primary, secondary, and tertiary goods by households and the public contributes to the increasing volume of increasingly diverse waste. There are several existing waste problems, including piles of burnt rubbish, and people's habit of throwing rubbish carelessly. The negative behavior of the community can cause the environment to become dirty.²

Communities inevitably face generation issues, such as food waste, inorganic waste, and other types of waste produced by both the

families within the community and visiting families. Developing the habit of waste separation at home should become a routine for everyone in the community environment. Waste separation is an effective method for managing environmental waste burdens. The separation can be categorized into 3 types of waste: organic waste, recyclable waste, and residual waste. There are significant benefits to waste separation actions such as the 3R (Reduce, Reuse, and Recycle). Separating plastic waste not only reduces the amount of environmental waste but can also be repurposed for other needs. 6

Several problems related to waste identified in the Bunglai Village RT 01 area include people's habit of throwing away rubbish without sorting it, rubbish being burned, rubbish being buried in the ground and some being thrown away haphazardly. Garbage that is thrown away by the community without going through a sorting process will cause an unpleasant odor and become a nest for various types of animals. Community behavior towards domestic household waste is by data collection in Field Learning Experience 1 (PBL 1), namely by burning it at 44%, throwing it carelessly at 34%, burying it in the ground at 18%, and throwing it into the river at 4%.

The behavior of this community from an ecological perspective is not very good. Garbage thrown into rivers will cause environmental disasters and social problems. Community behavior in throwing rubbish into rivers, hoarding rubbish, and burning rubbish, can cause environmental pollution and disrupt public health. Increasing public understanding management can create an environment that is clean, healthy, and free from other disasters that may arise.³ This is due to the lack of public knowledge about waste management and the dangers of burning waste. Burning waste is highly discouraged because the residue from waste incineration itself can harm both people and the environment.8 Unmanaged waste conditions have the potential to increase environmental toxicity and pollution, both in the air and water. The higher the level of toxicity, the greater the impact on public health.9

Thus, intervention is needed at the root of the problem for household-level waste management in Bunglai Village RT 01. The intervention is carried out through activities in the follow-up plan in PBL I, namely Education and Training on Organic and Inorganic Waste Management. The methods used are Ecobricks and Takakura Compost. Compost is the result of the decomposition of organic materials including leaves, cogon grass, straw, and so

on. 10 Compost fertilizer is a fertilizer derived from the decomposition of organic materials by microorganisms.¹¹ The Takakura technology for making compost or organic fertilizer has been used for 20 years since 104. This technology was first discovered by Mr. Takakura, a Japanese compost researcher. Subsequent developments in Takakura technology have helped communities worldwide, as it is very affordable, efficient, and can be placed anywhere due to the small land required. The materials needed to make Takakura technology include Takakura baskets, pillowcases, bags, pre-made composters, used cardboard, blackcolored cover cloth, and Takakura basket lids. 12 Ecobricks are a method used to minimize waste using plastic bottles filled with clean inorganic waste until the bottles are really hard and dense. Ecobrick is a plastic waste management technique made from used plastic bottles filled with various plastic waste until full, then compacted until hardened. Once the bottles are full and hardened, they can be assembled with glue and constructed into tables, simple chairs, towers, and even potentially assembled into fences and foundations for simple playgrounds or houses. The eco-bricks are expected to provide a solution to the increasing amount of plastic waste. 13 Composter using the takakura technique which is done using a basket with holes. These composter materials include husk pillows, fertilizer, organic waste, cardboard, plastic wastebaskets, porous black cloth, and waste basket lids. It is hoped that this can be an effort to manage waste at the household level based on the takakura and ecobrick methods in Bunglai Village RT 01 to solve the problem of burning waste. Composting is seen as one of the appropriate ways to address waste issues because it is easy and inexpensive to make. Moreover, it does not cause pollution and produces a useful product.14

Evaluation of the intervention carried out consists of process evaluation, which is related to planning, implementation, and monitoring of activities. 15 The evaluation activity is conducted to obtain certainty regarding the success of the program and provide feedback on what needs to be improved in the activity. 16 Activity monitoring is carried out together with cadres to monitor residents to see the progress of making takakura and eco-bricks. To assess the success of the program, an evaluation of the results will be carried out after the activities are carried out. The results evaluation is aimed at apply assessing whether residents intervention program, namely organic and inorganic waste management, in the form of takakura baskets and ecobricks.

Evaluation of the impact of the program,

namely changing residents' habits in burning organic and inorganic waste, and residents being able to apply organic waste as fertilizer using the Takakura basket method, and inorganic waste as eco brick crafts in the long term.

The aim of the Laoangan Learning Experience 2 intervention was carried out as an empowerment effort for the community in RT 01 Bunglai Village to prevent and control problems caused by waste around the community.

The purpose of this activity is to carry out intervention activities on organic and inorganic waste management problems in Bunglai Village RT 01 on the results found in community diagnosis and risk factor analysis that had been carried out previously in Field Learning Experience I (PBL I), namely through education and training activities for Bunglai Village residents RT 01 and the formation of ECOMPOSTER cadres. Carrying out short-term monitoring and evaluation to assess the success of ongoing and already implemented interventions. From the Field Learning Experience II (PBL II) activities, it is hoped that it will know the waste management problems that occur and how to overcome the waste management problems that exist in Bunglai Village RT 01.

METHOD

Counseling and demonstration methods are used to carry out this community service. The evaluation instrument for this activity uses a knowledge and attitude questionnaire which is analyzed statistically using the Wilcoxon test, as well as a final program evaluation questionnaire which is analyzed quantitatively descriptively. Questionnaires are chosen as an instrument because they are more efficient and flexible, allowing data collection from many respondents quickly and at a low cost. Additionally, questionnaires can be tailored to various question formats according to the research needs. Knowledge and attitude questionnaires were given before and after educational activities, while the final program evaluation questionnaire was given the day before leaving the village. The media used in this activity are leaflets and pocketbooks for composter cadres. The location of community service program activities carried out in Bunglai Village RT 01, Aranio District, Banjar Regency, South Kalimantan Province is the place where the community service program activities are carried out. On 06 July -03 August 2023, this activity was carried out. The community of RT 01 Bunglai Village, Aranio District, Banjar Regency was the target of activities of as many as 33 people.

Activities were carried out in three stages, starting with the preparation stage for advocacy and licensing to the Village Head, Village Officials, RT 01 head, and Village Midwife regarding the intervention. Second, implementing waste sorting education, counseling, and demonstrations on making ecobricks and Takakura compost, and forming composter cadres (Ecobricks and Takakura compost). Third, the monitoring and evaluation stage to assess the success of the program.

RESULT AND DISCUSSION Respondent characteristics

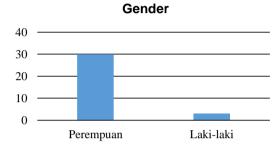


Figure 1 Respondents Gender

Based on the picture above, it can be seen that the majority of participants' gender were female, as many as 30 people or 90.9% of the 33 participants present. Meanwhile, for men, it was 3 people or 9.1%. The reason behind the dominance of female participants in waste management activities may be due to several factors. First, in many communities, women are often responsible for management, which includes household household waste management. They are more directly involved in daily practices such as waste separation, composting, and recycling, making them more interested and motivated to participate in these activities.

Participant Age 12 10 8 6 4 2 11–20 21–30 31–40 41–50 51–60 61–70

Figure 2. Participant Age

The reason behind the dominance of participants in the age range of 21-30 years old could be because this age group tends to be more active in community activities and has more energy and free time compared to other

age groups. They might also be more aware of environmental issues and more interested in participating in sustainable waste management efforts. The age groups of 31-40 years old also show significant participation. People in this age range may have a high level of concern for the environment because they often have families and want to ensure a clean and healthy environment for their children. Participation from the age groups of 41-50 years old and 51-60 years old, although lower, remains important. They might be involved due to their responsibilities in the household community, as well as their experience with traditional waste management practices. The age group of 11-20-year-olds might have fewer participants due to their involvement in school or other educational activities that prevent their full participation in this activity.

Participant Work



Figure 3. Participant Work

Based on the picture above, it can be seen that the majority of participants' occupations are housewives, 22 people or 66.6% of the 33 participants present. Then there are 5 farmers or 15.1%, and 2 people or 6.06% of palajars. The rest are village officials, casual daily workers, private sector workers, and traders each with 1 person or 3.03%. The dominance of housewives among participants could be attributed to several factors. Firstly, housewives often play a central role in managing household affairs, including waste disposal and recycling. Thus, they may have a vested interest in learning about effective waste management practices to improve the cleanliness and environmental sustainability of their homes and communities. Additionally, the availability of time and flexibility in schedules may contribute to the high participation of housewives in such community activities.

Compared to individuals with full-time jobs or other commitments, housewives may have more opportunities to engage in educational initiatives like this field learning experience. Active community involvement in these programs can help identify needs and ensure that the programs are truly beneficial to the community.¹⁷

Participant Education

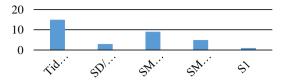


Figure 4. Participant Education

The majority of participants' education was 15 people who had not finished elementary school or 45.4%, followed by SMP/equivalent with 9 people or 27.2%, high school/equivalent with 5 people or 15.1%, elementary school/completed elementary school with 3 people or 9.09% and S1 as much as 1 person or 3.03%.

The majority of gender participants were women, 30 people (90.9%) out of 33 participants, men 3 people (9.1%). This was because the men were working so they were unable to attend. The majority of people's age is 21-30 years (30.3%), 31-40 (24.2%), 41-50 years (18.1%), 51-60 years (15.1%), 11-20 years (9.09%), and 61-70 years (3.03%). The average community education is elementary school (SD) graduate (45.4%).

The majority of participants who have not completed elementary school indicate a challenge in literacy and education that needs to be addressed in the waste management program. Meanwhile, the number of participants from various education levels, such as junior high school, senior high school, and even bachelor`s degrees, demonstrates inclusivity of this program in attracting attention from diverse educational backgrounds. Thus, waste management efforts can provide opportunities to enhance environmental awareness and education in Bunglai Village.

Evaluation of knowledge and attitudes before and after waste management education

Educational intervention activities on waste sorting, namely organic, inorganic, and B3 waste, are planned to be carried out in Bunglai Village, Aranio District, Banjar Regency. Educational material on waste involves management an in-depth understanding of various aspects of waste. The definition of waste is material that has no economic value and is generally thrown away because it is no longer useful. The types of waste involve classifications such as organic waste, such as food scraps and leaves; inorganic waste, such as plastic and paper; and waste, including batteries, hazardous hazardous chemicals, and medical waste. Understanding these types is important because each category requires different treatment.

In this context, the evaluation is conducted to observe changes in 2 main aspects: knowledge and attitude. knowledge being evaluated includes individuals understanding of the importance of waste separation, the types of waste, as well as the methods and benefits of waste separation. Before the education, a knowledge evaluation is conducted to determine how much the participants already know about waste separation. After the education, the knowledge evaluation is repeated to assess the extent of their increased understanding after receiving the relevant information and education. As for the attitude evaluation, it aims to understand the participant's initial views before the education whether they think waste separation is important, whether they are committed to doing it, and their awareness of the impact of waste. The attitude evaluation after the education aims to see if there has been a positive change in their perspective and commitments.

Table 1. Wilcoxon Test For Pre-Test and Post-Test of Attitude and Knowledge

Variabel	Ave	P-	
Variabei	Before	After	Value
Attitudes	15,39	17,18	0,0001
Knowledge	46,61	61,30	0,0001

The difference occurred because most intervention participants experienced an increase in scores during the post-test. Meanwhile, in the series of cadre formation activities, carrying out their duties, it was found that 2 cadres carried out their duties well, one

person carried out their duties very well, and the remaining person carried out their duties in the poor category. In making takakura and ecobricks, it was found that 1 person made takakura compost and 23 people made ecobricks.

The reason for the need to sort waste is reduce its negative impact on the environment and human health. Sorting waste allows us to optimize reuse and recycling, reduce waste entering landfills, and reduce greenhouse gas emissions. The main principle in processing waste involves the 3R concept: Reduce, Reuse, and Recycle. How to sort waste involves separating waste based on type, collecting organic waste such as composting, collecting plastic and paper waste for recycling, and properly securing hazardous waste. Examples of waste utilization and management involve practices such as reusing shopping bags, composting organic waste, and recycling programs for plastic bottles and paper. With a solid understanding of this material, society can play an active role in efforts to protect the environment and reduce the negative impact of waste on the earth.

Evaluation of the output is carried out after the work has been completed, in a certain period to determine whether the output, effect, or impact of the program is by the targets previously set. Short-term evaluation of intervention activities was carried out by administering pre and post-test questionnaires. Based on the pre-test and post-test scores, it is known that as many as 27 respondents experienced an increase in knowledge, and as many as 5 respondents had constant knowledge, and as many as 1 person experienced a decrease in their level of knowledge.

Level of Knowledge Before and After Waste Sorting Education

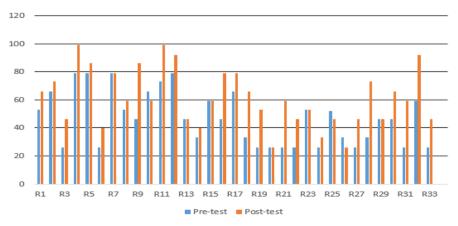


Figure 5. Distribution and Frequency of Pre-test and Post-test Knowledge Before and After Waste Sorting Education

The participants who attended were given pre-test questions regarding how to sort waste properly as well as the general concept of takakura compost and ecobricks in a total of

10 questions. To find out the level of knowledge

of this counseling and training intervention activity, carry out a pre-test and post-test on participants, then compare the results of the pre-test scores and post-test scores.

Attitudes Before and After Waste Sorting Education



Figure 6. Distribution and Frequency of Pre-test and Post-test Attitudes Before and After Education on Proper Waste Separation Methods

Based on the results and frequency of pre-test scores and post-test scores, it is known that as many as 25 respondents experienced a change in attitude from negative to positive. This is positive because it shows that after respondents received education on proper waste separation methods, there was a significant change in their attitudes. This means that if they had a negative attitude during the pre-test (such as being indifferent or unaware of waste separation), after receiving the education their attitude changed to positive (meaning they became more concerned, understood, and implemented waste separation). This change from negative to positive indicates that the education provided was effective in raising awareness and fostering positive attitudes toward waste separation. As many as 5 respondents had a constant attitude and as many as 3 respondents experienced a change in attitude from positive to negative.

Educational intervention activities on waste sorting, namely organic, inorganic, and B3 waste, are planned to be carried out at the Bunglai Village Office, Aranio District, Banjar Regency, scheduled for Tuesday, July 18, 2023. However, it turns out that we can immediately advance and carry out the activities as agreed with the community, namely on Sunday, July 16 2023 from 08.00-12.00 WITA in the yard of Mr Herdiansyah's house RT 1 Bunglai Village. Conditions at that time did not allow it to be carried out on time because there were still many housewives who were completing their activities so we postponed the

activity at 09.00 WITA while waiting for the residents and at 09.10 the activity officially opened because many people had come and the RT was also already in place. Of all the residents of RT 1 who were invited, only 35 people attended.

Education on sorting organic, inorganic, and B3 waste began with opening the event and continued with prayer, then a speech by the group leader and Mr. RT 1 and Mrs. Head of the Village General who also opened the activity. The PBL team and the residents who attended the intervention carried documentation together and uttered the slogan "RT 1 Residents? Great...great." then the PBL team distributed the pre-test to the residents and helped several residents who had problems reading and writing to fill in the pre-test, the pretest was completed for 10-15 minutes, the pretest contained questions about waste sorting, methods, and how familiar they were with the community, regarding Takakura baskets and eco-bricks. The next activity is providing educational material and sorting organic, inorganic, and B3 waste for 15 minutes. The people of RT 1 listened carefully to the presentation of the material given by the presenters, and actively asked the presenters several questions about waste and its management.

Education and Training on Making Takakura Ecobricks and Compost

Making eco-bricks is a very positive effort to reduce plastic waste that pollutes the

environment. In Bunglai Village Rt 1. In this activity, we use lecture and demonstration/practice methods as an effective educational tool. The process of making ecobricks requires simple tools and materials that can be easily found, including used plastic bottles, and inorganic waste such as hard plastic, scissors, double-sided tape, and duct tape.

With the help of this method, residents are taught how to pack inorganic plastic waste

into used plastic bottles tightly and safely. The eco-bricks

produced can be used as an environmentally friendly alternative building material, reducing environmental pollution while helping to reduce the amount of plastic waste that ends up in landfills. Through community collaboration and this educational method, Bunglai Village shows a real commitment to maintaining environmental sustainability.



Figure 7. Utilization of Ecobrick

Making compost using the Takakura Method is a collaborative activity involving residents from RT. 1 in Bunglai Village. To educate residents about the importance of organic waste management and the benefits of compost, this method is used in conjunction demonstration/practice lecture and methods. One of the main advantages of the Takakura Method is its simplicity and the lack of unpleasant aromas produced in the process. In this activity, various simple tools and materials that are easy to find have been used, including: 1. Plastic basket with holes: Used as a compost container. 2. Lid the basket: Helps maintain moisture and reduces odor. 3. Cardboard: Can be used to line the bottom of the basket so that the compost does not fall out. 4. Knives and scissors: For cutting or chopping organic materials. 5. Shovel: To lift and move material. 6. Rice husks: One of the mixing ingredients in compostina process. 7. bags/drawstring bags: Used to store organic waste before processing it into compost. 8. Finished compost: Can be used as a compost starter. 9. Organic waste/wet waste: The main material that will be used as compost. 10. Porous black cloth: Used to cover the compost and protect it from excessive sunlight. With these various tools and materials, residents of RT 1 Bunglai Village can easily start making organic compost practically. This method is not only useful for managing organic waste well but also helps in producing compost which is useful for increasing soil fertility in their environment. This is a good step towards sustainable and

environmentally friendly waste management.

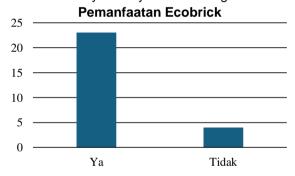


Figure 8. Utilization of Ecobrick

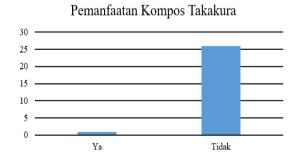


Figure 9 Utilization of Takakura Compost

Based on the results obtained, it was found that out of 27 respondents, there was 1 person, or 3.7% who used the Takakura compost method to make fertilizer from organic waste. The number of people monitored was reduced to 27 because the cadre was only able

to reach 27 individuals during the monitoring. The remaining 6 people were not at home when the cadre visited. This monitoring was conducted to assess the success of making ecobricks and takakura. This data was obtained from data primer collection conducted by the group regarding the

Distribution and frequency of Takakura compost utilization by the residents of Bunglai Village, RT 1. While 26 people or 96.2% still had not implemented it. Meanwhile, regarding the use of eco-bricks, of all 27 respondents, 23 people or 85.18% succeeded in making eco-bricks after being invited by cadres and the PBL II Team so that they could be collected and made into crafts.

And there are still 4 people or 14.81% who have not yet applied to make eco-bricks. The large number of people who have not made takakura compost is due to the difficulty of getting the equipment and materials needed to make takakura compost, then based on community statements it is also because organic waste is usually given to their pets.



Figure 10. Utilization of Takakura Compost

Evaluation of Ecomposter Cadres (Ecobricks and Takakura Compost)

Cadres carry out their duties by visiting residents' homes to monitor residents' progress after the education, and if there are still residents who do not understand, then the cadres will provide further education. The following are the duties of Ecomposter cadres:

 Mobilize the community to sort waste, make eco-bricks or Takakura compost

The first step is to educate and motivate the community to sort waste. This can be done in various ways, such as holding outreach, seminars, or workshops. You can also create educational content on social media, such as posters, videos, or infographics. It is important to emphasize the benefits of sorting waste, such as reducing environmental pollution, saving natural resources, and increasing the economic value of waste.

Conduct monitoring using cadre pocketbooks at residents' homes or WhatsApp

To ensure the program is running

effectively, regular monitoring is required. This can be done by visiting residents' homes directly or via the WhatsApp application. Whatsapp was chosen for several reasons, primarily due to its accessibility, as the majority of the population has access to the application, enabling outreach to most of the community. Additionally, its ease of communication various features including text provides messaging, voice calls, and video calls, allowing cadres to communicate directly, provide information, answer questions, and offer quick, easy, and efficient quidance. The pocketbook can be used as a guide for cadres in carrying out monitoring. This pocketbook contains information about the types of waste that can be sorted, how to sort waste and the benefits of sorting waste. Monitoring via WhatsApp can be done by creating a special group. In this group, cadres can share information about waste management, as well as exchange ideas and experiences with residents.

3) Make Takakura compost or eco-bricks at home as a model for residents.

One effective way to increase community participation is to show real examples. This can be done by making Takakura compost or ecobricks at home as a model. Takakura Compost is an easy and practical method of composting organic waste. Eco-bricks are plastic bottles filled with dry, solid plastic waste, which can then be used as building materials. By seeing real examples, people will be more motivated to do the same thing in their homes.

4) Remind residents to sort waste when monitoring.

When monitoring, cadres also need to remind residents to sort waste properly. This can be done by providing direct direction and suggestions. It is important to emphasize the importance of consistency in sorting waste. The more often you do it, the more you will get used to it, and become part of your lifestyle.

5) Explain Takakura compost during monitoring if there are residents who don't understand.

There are still many people who don't know about Takakura compost and eco-bricks. Therefore, it is important to explain the benefits and how it is created when monitoring. Explanations can be made in a way that is easy to understand, such as using examples and illustrations. Cadres can also distribute brochures or pamphlets containing information about Takakura compost and eco-bricks. Explain about eco-bricks when monitoring if there are residents who don't understand. Having cadres will ensure that education related to interventions can continue.

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Figure 11. Cadres carry out monitoring

In carrying out their duties, cadres carried out monitoring twice, namely on July 23, 2023, and July 28, 2023. The number of residents who were successfully monitored was 27

people, then divided into 4 groups according to the number of existing cadres so that 1 cadre monitored 6-7 people. Initially, all 29 participants who attended the training and education day were monitored, but the number of residents who were successfully monitored by cadres was only 27 people because the other 2 people were not there when they were visited.

On July 23, 2023, cadres monitored residents directly. Next, PBL members will monitor via the Whatsapp group and interviews after carrying out their duties. Then, on July 28, cadres carried out a second monitoring accompanied by PBL members. The instrument used is a checklist for monitoring cadre tasks. Monitoring is carried out to find out obstacles or obstacles that can disrupt the smooth running of activities.

The following are the monitoring results of cadre tasks which refer to the 6 points explained previously, namely:

Table 2. Results of Monitoring Ecomposter Cadre Duties

No	Cadre Name	Cadres Carry Out Duties/Not							
NO	Caure Name	1	2	3	4	5	6	Skor	Information
1	Muhammad Sholihin	√	V	-	V	V		5	Good
2	Sholatiah		$\sqrt{}$				$\sqrt{}$	6	Very Good
3	Pitriani					-	-	4	Enough
4	Musawwiroh					-		5	Good

Table 3. Information and Percentage of Monitoring Ecomposter Cadre

Information	Quantity of Individuals	Percentage (%)	
Very Good	1	25	
Good	2	50	
Enough	1	25	

Based on the table above, it is known that 2 cadres, or 50% carry out their duties well, then 1 person or 25% carry out their duties very well and 1 person or the remaining 25% is sufficient. One cadre who carries out duties in the adequate category is because he is busy so he cannot carry out his duties properly.

CONCLUSION

The intervention activity was carried out by the PBL group 2 team in RT 1, Bunglai Village, Aranio District, Banjar Regency. The results of the intervention in the community showed that there was an increase in knowledge and attitudes after the intervention was given. The average value of the pre-test knowledge was 46.61 to 61.30 at the post-test. Meanwhile, the average pre-test attitude score was 15.39 to 17.18 at post-test. A pre-test and post-test Wilcoxon test was carried out to see

the output results. It was found that the significance value for knowledge was 0.000<0.05 and for attitude it was 0.000<0.05 which means the decision is that Ho is rejected, meaning that there are differences in knowledge and attitudes between before and after the intervention in the form of counseling.

REFERENCES

- Lestari MS, Santoso MB, Mulyana N. Penerapan teknik Participatory Rural Appraisal (PRA) dalam menangani permasalahan sampah. Jurnal Penelitian dan Pengabdian Kepada Masyarakat 2020; 1(1); 55-61.
- 2. Dewi, et al. Pemberdayaan masyarakat melalui pengelolaan sampah skala rumah tangga menggunakan metode composting. Sasambo Jurnal Abdimas 2020; 2(1): 8-12.

- 3. Putra GM. Konsep zero waste skala rumah tangga lingkungan perumahan; Ghalbi 2020; 2(2): 1-23.
- 4. Sari IK, Sudarti. Analisis Berbagai Metode Pengolahan Sampah Sebagai Solusi Permasalahan Sampah di Kabupaten Lumajang. J EnviScience 2022;6(2):82–95.
- 5. Fiqih MN, Syaiful. Penempatan Bak Sampah Organik, Anorganik, dan B3 dengan Konsep Go Green Perumahan Budi Agung RW 03/RT 05. J Pengabdi Masy UIKA JAYA. 2023;1(2):71–81.
- 6. Utoyo EB, Sudarti. Potensi Pembangkit Listrik Tenaga Sampah (PLTSa) Sebagai Solusi Permasalahan Lingkungan dan Sosial di Indonesia. Cermin J Penelit. 2022;6(2):337–47.
- Simatupang EW, Rahmwati N, Haidar MZ, Sudaryanto S. Pemanfaatan Sampah Organik Dengan Pembuatan Komposter. J Masy Berdaya dan Inov. 2024;5(1):118– 21.
- 8. Sutalhis M, Nursiwan, Novaria E. Analisis Manajemen Sampah Rumah Tangga di Indonesia: Literature Review. J Ilmu Pengetah. 2024;4(2):97–106.
- Sukamdani NB, Eddyono F, Sahid U, Lingkungan T, Jakarta S. Edukasi Manajemen Sampah Untuk Peningkatan Kapasitas SDM Pada Pengurus Kelompok Disabilitas Kota Bogor. Reswara J Pengabdi Kpd Masy 3. 2022;3(10):827–33.
- Ardianty S, Sari AP, Putri FS, Malika F, Wulandari FS. Penyuluhan Pengelolaan dan Pembuatan Sampah Organik Menjadi Pupuk Kompos. J Community Dev. 2024;5(1):7–14.
- Sitepu RNB. Analisis dampak limbah domestik rumah tangga terhadap pencemaran lingkungan di tanjungbalai sumatera utara. J Kesehat. 2024;2(2):112– 8
- 12. Kristianto AH, Veronica S, Vuspitasari BK. Potensi Pengembangan Ekonomi Sirkular

- Kerakyatan dan Solusi Permasalahan Sampah Tidak Terkelola (Studi Kasus Desa Sungai Duri Kabupaten Bengkayang). J Maneksi. 2022;11(1):231– 6.
- 13. Nurkhasanah E, Ababil DC, Prayogo RD. Pembuatan Pupuk Kompos dari Daun Kering. J Bina Desa. 2021;3(2):109–17.
- 14. Azmin N, Nasir M, Nurbayan S. Pelatihan Pembuatan Pupuk Kompos Dari Sampah Organik Di Desa Woko Kabupaten Dompu. J Pengabdi Masy. 2022;1(3):137–42.
- 15. Priantari I, Setyowati T. Peningkatan Kesadaran Lingkungan Anggota Ikatan Mahasiswa Muhammadiyah Melalui Pengolahan Sampah Organik dengan Teknologi Takakura. J Abdi Insa. 2024;11(1):923–33.
- Rahmawati S, Rahmadhiani W, Rohman AN, Dyah N. Pemanfaatan Ecobrick untuk Pengelolaan Sampah Anorganik. J Masy Berdaya dan Inov. 2024;5(1):106–9.
- 17. Rosmala A, Mirantika D, Rabbani W, Tasikmalaya UP. Takakura Sebagai Solusi Penanganan Sampah Organik Rumah Tangga. Abdimas Galuh. 2020;2(2):165–74.
- 18. Dongoran FR, Naddya A, Aisah N, Ridho AM. Monitoring dan Evaluasi Terhadap Peningkatan Kinerja Guru di SMP Terpadu Al-Farabi Tanjung Selamat. J Pendidik dan Konseling. 2023;5(1):1891–8.
- 19. Magdalena I, Fauzi HN, Putri R. Pentingnya Evaluasi Dalam Pembelajaran dan Akibat Memanipulasinya. J Pendidik dan Sains. 2020;2(2):244–57.
- 20. Riyanto M, Kovalenko V. Partisipasi Masyarakat Menuju Negara Kesejahteraan: Memahami Pentingnya Peran Aktif Masyarakat Dalam Mewujudkan Kesejahteraan Bersama. J Pembang Huk Indones. 2023;5(2):374–88.