

Collaboration training: Composting organic waste with Karang Taruna and Kanreapia Youth Organization

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ABSTRACT

Globally, waste production continues to increase along with population growth and consumption. This has caused serious problems related to waste management in many areas. Including in Halahalaya Hamlet, Kanreapia Village where waste that is not managed properly can threaten human health, the environment and the sustainability of natural resources. To reduce the accumulation of waste, the community needs to be empowered and equipped with waste processing methods with the younger generation as their representatives. So that this is the goal to be achieved in this activity. The methods used in this program are counselling and demonstration. All training participants are members of two internal organizations, namely Karang Taruna and IPMAH Kanreapia Organization who live in Halahalaya Hamlet, Kanreapia Village, Tombolo Pao District, Gowa Regency, with a total of 9 people. Data analysis was carried out descriptively by looking at the average pre and post test scores. From the results of the analysis, it was concluded that there was an increase in knowledge before counselling was given and after counselling, where before counselling with an average value of 47.78 then after counselling became 62.22, this showed the success of counselling on the use of organic waste carried out.

Keywords: compost; counselling; organic waste; waste management

ABSTRAK

Secara global, produksi sampah terus meningkat seiring dengan pertumbuhan populasi dan konsumsi. Hal ini telah menyebabkan permasalahan serius terkait pengelolaan sampah di banyak wilayah. Termasuk di Dusun Halahalaya, Desa Kanreapia di mana sampah yang tidak dikelola dengan baik dapat mengancam kesehatan manusia, lingkungan dan keberlanjutan sumber daya alam. Untuk mengurangi penumpukan sampah, maka masyarakat perlu diberdayakan serta dibekali metode pengolahan sampah dengan para generasi muda selaku wakilnya. Sehingga hal inilah yang menjadi tujuan yang hendak dicapai dalam kegiatan ini. Metode yang digunakan dalam program ini adalah penyuluhan dan demonstrasi. Seluruh peserta pelatihan adalah anggota dua organisasi internal yakni Karang Taruna dan Organisasi IPMAH Kanreapia yang tinggal di Dusun Halahalaya, Desa Kanreapia, Kecamatan Tombolo Pao, Kabupaten Gowa, dengan total 9 orang. Analisis data dilakukan secara deskriptif dengan melihat rata-rata skor pre dan post-test. Dari hasil analisis, disimpulkan bahwa terjadi peningkatan pengetahuan sebelum diberikan penyuluhan dan setelah diberikan penyuluhan, dimana sebelum penyuluhan dengan nilai rata-rata 47.78 kemudian setelah penyuluhan menjadi 62.22, ini menunjukkan keberhasilan penyuluhan tentang pemanfaatan sampah organik yang dilakukan.

Kata Kunci: kompos; penyuluhan; sampah organik; pengelolaan sampah

INTRODUCTION

In general, waste is defined as a material that is wasted or disposed of from sources of human activities or natural processes that have not or do not have economic value (Yudiyanto et al., 2019). Based on its nature, waste is divided into 2 types, namely organic and inorganic. Organic waste is waste that can be degraded because this type of waste comes from the rest of living things in the form of animals or plants and generally has an unpleasant odor while inorganic waste is waste that cannot be decomposed (undegradable) because it does not come from the rest of living things but in general this type of waste does not emit a pungent odor (Rahmawati, 2018).

The waste problem is one of the factors of global environmental damage (Ferronato & Torretta, 2019). Because the pile of garbage that becomes high not only affects the aesthetics of the environment but also brings many other problems such as disease, flooding due to puddles, fires and others (Chireshe et al., 2023). Poorly treated waste contributes to public health and environmental risks, including the high incidence of diarrhea and acute respiratory infections among the public, especially children as well as poor sanitation (Ramírez-Hernández et al., 2018). According to data from WHO, in 2022 as many as 89% of deaths were due to poor sanitation, 564,000 deaths were caused by intestinal worms, schistosomiasis, and trachoma. Then 59% of children in the world suffer from ARI due to air pollution caused by burning garbage.

According to a report titled *What a Waste 2.0* by the World Bank, the world generates 2.01 billion tons of solid urban waste annually. And at least 33% of waste is not managed properly, damaging the environment. In addition, the waste pile is projected to increase by 70% by 2050 – to 3.40 billion tonnes of waste per year globally. The increase in the global pile of waste is followed by national-scale waste which continues to increase every year. In Indonesia alone, based on data from the National Waste Management Information System (SIPSN) in 2022 from the input results of 303 districts/cities throughout Indonesia, there are 35.8 million tons of waste generated each year. With the composition of the largest type of waste contribution, which is 40.7% by food waste.

In waste management, people generally apply a collection, transportation, and disposal system. Public perception when waste is disposed of in the landfill will reduce the volume of existing waste. In fact, when waste is thrown into the landfill without a good form of management, it will cause the waste to accumulate and pollute the environment (Yudiyanto et al., 2019). According to Law No. 18 of 2008, waste management can be done by reducing and/or handling waste. Forms of waste reduction can be done by limiting waste generation (Reduce), recycling waste (Recycle), and reuse waste (Reuse). As for the form of waste handling, it can be done by separating waste based on type, nature and amount (Kurniati et al., 2016).

Takakura's composting method was once carried out in Bhaktijaya Village, Depok in 2020. By utilizing organic waste as the main material for making compost, it can be a component of plant greening. Waste management training on a household scale using the Takakura method is useful for introducing and practicing composting forms that are easy to apply in the home. Thus, the waste distribution flow to the landfill can be cut because waste is processed directly from the source (Noviana & Sukwika, 2020).

From the results of data collection conducted on PBL 1 in Halahalaya Hamlet, Kanreapia Village, Gowa Regency last July, it was found that one of the problems experienced by most people in Halahalaya Hamlet, precisely RW 002, was related to poor



Figure 1. Implementation of Extension Activities

waste management. Among the 61 households, there are 53 households that handle waste by burning due to the unavailability of landfill in the village. Therefore, this study aims to train and introduce to the community a good form of waste processing at the household level, especially for organic waste.

METHODS

This research was conducted in RW 002 Halahalaya Hamlet, Kanreapia Village, Tombolo Pao District, Gowa Regency, South Sulawesi for a day on October 8, 2023. The form of activities was carried out in two series, counselling then demonstrations by showing and joint practice on how to process organic waste into compost, then continued with descriptive data processing (See Figure 1).

The variables studied from this activity are increasing the knowledge of members of Karang Taruna and IPMAH Kanreapia related to processing organic waste and increasing the ability to manage organic waste, especially households, into more useful compost.

RESULTS AND DISCUSSION

Based on table 1, the respondents of this Collaboration Program consist of 7 (77.8%) women and 2 (22.2%) men. With the total number of training participants is 9 people from IPMAH, Kanreapia and Karang Taruna. The distribution of respondents by age was 9 respondents with the highest number of respondents at the age of 17 years (44.5%) or as many as 4 respondents and respondents at least at the age of 21, 23, and 24 years (11.1%), which was as many as 1 respondent.

Table 1. Distribution of Respondents by Gender

| Characteristic | | n | % |
|----------------|--|---|------|
| Gender | | | |
| Men | | 2 | 22.2 |
| Women | | 7 | 77.8 |
| Age | | | |
| 15 Year | | 2 | 22.2 |
| 17 Year | | 4 | 44.5 |
| 21 Year | | 1 | 11.1 |
| 23 Year | | 1 | 11.1 |
| 24 Year | | 1 | 11.1 |

Table 2. Level of Knowledge Before and After Counselling

| Knowledge Score | N | Min | Max | Mean |
|------------------------|----------|------------|------------|-------------|
| Pre-Test | 9 | 20 | 70 | 47.78 |
| Post-Test | 9 | 30 | 100 | 62.22 |

Based on Table 2 shows that there was an increase in knowledge before counselling and after counselling, where before counselling with an average value of 47.78 then after counselling to 62.22, this shows the success of counselling carried out.

Counselling on processing organic waste from household waste into compost was carried out at one of the houses of residents of Halahalaya Hamlet, precisely the house of the principal of SDN Kanreapia on Sunday, October 8, 2023. The purpose of this intervention is to provide education to the community regarding the correct management of organic waste from households so that it can be re-used as something useful such as compost that can be used as fertilizer in plants.

From the results of counselling on organic waste processing in communities who joined the Karang Taruna organization and the Kanreapia Youth and Student Association (IPMAH), the average score before counselling was 47.78 and after counselling was 62.22. The average difference before and after counselling was 14.44 or a score difference of 26%. Thus, it can be concluded that there is a difference in knowledge between before and after counselling on the processing of organic waste from households in members of the Karang Taruna organization and the Kanreapia Youth and Student Association (IPMAH) who were respondents in this study.

According to Law no. 18 of 2008, waste management is defined as a systematic, comprehensive, and sustainable activity which includes waste reduction and handling. Efforts that can be taken in the purpose of waste management are to convert waste into materials that have economic value and are not harmful to the environment such as making compost or crafts (Susilowati et al., 2021). Generally, waste is divided into 2, namely organic and inorganic. Organic waste is waste produced from biological materials that can be degraded by microbes or are biodegradable. This garbage can easily be decomposed through natural processes. Household waste is mostly organic matter (Ichsan et al., 2019)

The volume of organic waste from households is quite large, which is around 60-70% of the total waste produced by human activities, 40.8% of which comes from food waste (Susilowati et al., 2021). Processing organic waste into compost is one form of reducing the volume of waste starting from the source of the waste itself. In addition to reducing the volume of waste, it can also reduce the source of environmental pollution caused by waste. Cutting the waste distribution flow to landfill is an effective way and accelerates waste processing into more useful products (Nurhamidah et al., 2021). One effective way can be realized by making compost or eco-enzyme that has economic value and can be used in agriculture (Nurfajriah et al., 2021).

This type of organic waste is classified as environmentally friendly if given good handling. Besides being biodegradable, organic waste can also be used as appropriate that has economic value and is useful (Mardwita et al., 2019). One form of processing organic waste is by composting. Composting is defined as a form of controlled decomposition or the natural process of decomposing residual organic materials (Wahyuni et al., 2019). Composting can be done by various methods such as takakura, composter, outdoor, vermiculture and other composting methods. Among these methods, the method that is often used is Takakura because it is relatively practical, young and does not cause

bad odor because it is done by fermentation process not by decay (Yuliana et al., 2021).

One of the studies that has been conducted in 2020 in Kawungsari Village, Bandung Regency that utilizes household organic waste into compost using the Takakura method. Takakura is a composting method that has advantages and can be applied to very narrow fields, family kitchen spaces, or boarding rooms. In addition, Takakura is easy to apply, organic waste that has been cut into small pieces is simply put in the basket without having to add other additives. And the cost used is not too expensive because the material tools used are simple (Rosmala et al., 2020).

Waste processing can also be attributed to one of the qaidah proposals of fiqiyah which says "Adh-hararu Yuzaal" which means "The harm must be eliminated". The purpose of this rule is that waste that will cause a lot of damage such as environmental pollutants and an increase in the volume of waste should be eliminated or minimized by processing or recycling (Majelis Ulama Indonesia, 2014).

The implementation of the PBL II UINAM X Karang Taruna and IPMAH Halahalaya Waste Compost Training program consists of two series of core activities, starting with counselling and then continuing with the practice of making compost. The activity was carried out on Sunday/October 8, 2023 after previously advocating to two internal village organizations, with the main respondents being members of organizations domiciled in Halahalaya. We also advocate for residents whose organic waste processing is good, then work with one of the communities to become a speaker and trainer for composting practices.

The first activity carried out was to provide counselling / material related to how to properly process organic waste. The counselling was carried out after the pre-test, where the speaker and training provider was Ayunda Gina Puspita Sari, a graduate of the Department of Agriculture of the Makassar Agricultural Development Polytechnic as well as part of the Youth Entrepreneurship And Employment Support Services (YESS) of the Indonesian Ministry of Agriculture. The material presented includes what organic waste is, how to process and what should be avoided in making compost, then continued with processing practices or training in making compost.

With a total of 9 collaboration teams, 4 people are members of IPMAH Kanreapia and the remaining 5 people are members of Karang Taruna. The collaboration team was shown a first-hand pilot of how the most minimal and simple waste composting can be done for beginners. By processing organic waste into compost, it is expected to be the first step to reduce the accumulation of food waste and other household waste, which according to data 40% dominates the accumulation of waste this year. And also of course become an alternative fertilizer, reducing the use of pesticides so that the agricultural products will also be fertile and healthier agricultural products.

This is in line with the results of research by Kriswanto et al. (2016) which showed that differences in the dosage of compost turned out to affect plant height, number of leaves and length. The area of leaves as well as the weight of wet pruning of a plant. This is also in line with Nazirah (2019) research conducted on soybean plants also shows the same thing, and the quality of the fruit is better than those sprayed with pesticides.

The speaker taught how to compost waste simply, with various steps. Starting with preparing tools and materials consisting of containers for composting in the form of buckets and sacks or drums, then separating organic waste from other types of waste. As for kitchen waste such as food waste that is still large in size, it must be reduced first. After the organic waste is already in a small size in the container, then mixed with brown waste such as

chocopit, husks and dry leaves as waste containing decomposing agents. Next, the composting container is closed and leave until it decomposes well.

At the end of the activity, the speaker showed the composting fertilizer that had been made some time ago, also invited the collaboration team to see the compost that had been sown on the speaker plants, also given the opportunity to try strawberries which were different in terms of taste from those usually sold in other strawberry plantations.

CONCLUSIONS

For counselling related to organic waste management, the results of increasing knowledge were obtained before counselling and after counselling, where before counselling with an average value of 47.78 then after counselling became 62.22 or in this case there was an increase in respondents' knowledge before and after counselling on making compost from organic waste, which was 26%, this shows the success of the counselling that has been carried out. The training on making compost from organic waste in collaboration with the Karang Taruna organization and IPMAH Kanreapia was carried out in a structured manner. Starting from the collaboration teams being shown first-hand the most minimal and simple waste composting procedures that can be done for beginners at the household level to the speaker process showing the composting fertilizer that has been made some time ago and inviting the collaboration team to see the compost that has been sown on plants.

There is a need for escort by government officials or direct pilots by the collaboration team to the community related to organic waste management so that the waste left over from household waste can be re-used as something that has economic value. In addition, initiative and commitment from the community are needed in the implementation of this organic waste treatment.

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