

Environmental Love Movement Through Environmental Poster Training, Waste Sorting Training And Organic Liquid Fertilizer Making

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Abstract.

A healthy environment makes us less susceptible to various diseases Dengue fever, malaria, vomiting and other diseases. Not only in hygiene, has environmental cleanliness also had a big influence. Comfort, beauty, and a beautiful environment ultimately bring peace. The environmental movement carries out community service by educating waste sorting and waste management through seminars and workshops as well as environmental digital poster training. Seminars and workshops as well as digital poster training for the environment to maintain a beautiful, clean and healthy environment. The purpose of the event was to encourage and educate the community to be able to handle waste, care, protect and love the environment as well as develop computerization skills. Develop computerization skills. Methods of instilling the love movement the environment through waste sorting seminars, workshops on managing organic waste into liquid organic fertilizer, and training on making digital posters. Organic waste into liquid organic fertilizer, and training in making digital posters by computerization. This community service increases the understanding of understanding of the community in separating organic, inorganic, and B3 waste, the community can practice and master the making of liquid organic fertilizer, and the community can make liquid organic fertilizer, can practice and master the making of liquid organic fertilizer, and can also campaign for the environment Through posters. Campaigning for the environment through digital posters.

Keywords: *Environmental cleanliness, Waste management, Community education, Digital poster training and Liquid organic fertilizer.*

I. INTRODUCTION

A healthy environment makes we will not be susceptible to various diseases such as dengue fever, malaria, vomiting, etc. Not only in the field of health, is environmental hygiene also very influential on comfort, beauty and beauty of the environment which will lead to peace (Risnawati, 2021). A healthy environment will sustain a healthy population, if the state does not take action to make the environment in which people live and work into healthy environments, millions of people will become sick and die young (Margaret Chan, 2022). According to law no. 18 of 2008, waste is organic or inorganic material that can be biodegradable or cannot be decomposed, either in solid or semi-solid form, which is formed as a result of daily human activities or natural processes that are considered unusable and useless so that they are thrown into landfills. Milieu (DEPKES 2017). Waste is a problem phenomenon that has not been solved effectively. Various strategies have been implemented by both the government and the community. The government's efforts to reduce waste include establishing 3R TPS in various regions to reduce the amount of waste in landfills that have previously been processed so as to produce more valuable products.

One of the waste management activities carried out by the community is basically by burning garbage, throwing it into the river or collecting it at the nearest garbage can and then transporting it to the garbage disposal site by officers. In this community service, a waste sorting seminar with the priority issues faced are: Public awareness is still low awareness in preserving and preserving the environment. Lack of environmental insight responsible, both individually and both individually and in groups. Especially those related to how ecosystems work and the impact of human behavior on environment. Training on processing organic waste into liquid fertilizer, and making environmental posters were held. Organic fertilizer is a type of fertilizer made from various natural fertilizer materials such as animal waste, animal parts, and plants,

which are rich in minerals and have a good fertilizing effect on the soil (Leovini, 2012; Roidah, 2013). Based on its form, organic fertilizer can be divided into two types: liquid and solid (Hadisuwito, 2012).

Liquid fertilizer is a solution containing one or more substances that carry essential elements for plants and are easily soluble. The advantage of liquid fertilizer is its ability to provide nutrients according to plant needs. Liquid organic fertilizer has a number of advantages, including being able to encourage and increase the formation of chlorophyll in the leaves, which in turn increases the ability of plants to photosynthesize and absorb nitrogen from the air so as to increase the strengthening of tree vitality so that it becomes strong and healthy. In addition, it can also increase plant resistance to drought, stimulate branch growth, increase flower and fruit formation, and reduce flower and fruit loss (Huda, 2013; Febrianna et al., 2018). Liquid fertilizer applications can also be made more uniform, and the concentration can be easily adjusted to the needs of the plants. Liquid compost can be obtained from crop residues or animal manure.

II. METHODS

Community service activities love for the environment movement in the form of education, preservation, and maintenance of the living environment so that it remain beautiful, clean and healthy. Methods community service activities include:

1. Waste Sorting Education and its utilization for fertilizer compost and liquid fertilizer. Fertilizer is one of the main not only land, labor and capital, fertilizer is also a major production factor in farming. Capital fertilizer is also an important factor that support productivity of rice plants as rice producer (Reni 2021, Amalia, 2023).
2. Computerization training making slogans on pamphlets about loving the environment. Computerized training for making environmental slogan posters
3. Activities in the form of digital training using computers and the canva program to train Aisiyiah and Muhammadiyah organization in designing environmental posters.

Aisiyiah is an Islamic non-governmental organization in Indonesia dedicated to women's empowerment and charitable work. Founded on May 19, 1917 by Nyai Ahmad Dahlan, Aisiyiah focuses on access to education, health, and social services for women. Muhammadiyah is a large Islamic non-governmental organization in Indonesia founded in 1912 by Ahmad Dahlan in Yogyakarta (Hajar, 2014).

III. RESULT AND DISCUSSION

Education & Training Waste sorting and into liquid fertilizer was conducted offline and online with offline participants environmentalists, teacher in Sukabumi City School, TPS3R managers in Sukabumi City and Regency, Aisiyiah and Muhammadiyah residents, Muhammadiyah Students Association. While online participants from Aisiyiah from all over Indonesia using the meeting zoom (Figure 1). Participants were trained to sort organic, inorganic, and hazardous waste and put them in the appropriate trash cans. Provided with knowledge on the utilization of organic and inorganic waste, handling of hazardous waste, and the type markings or colors of garbage cans. At the seminar, participants learned that waste is divided into three categories, namely organic waste, inorganic waste, and B3 waste. Organic waste is the waste of the remains of living things (both animals, plants, and humans) that decomposes naturally in nature (biodegradations). Common types of garbage are food scraps, fruit and vegetable scraps, leaves, tree and grass scraps, rice husks, livestock manure, as well as nail clippings and hair strands that are thrown on the ground. Some of them can be used for other purposes such as making compost, eco-enzymes, processing with biopores, to become feed for black army flies or BSF flies. Organic waste can be classified in more detail into two types, namely dry organic waste and wet organic waste.

Dry organic waste has a lower moisture content than wet organic waste. Therefore, usually wet organic waste decomposes faster so it is destroyed first. Unlike organic waste, inorganic waste does not decompose naturally (non-degradable) because the materials do not come from nature but are processed from certain synthetic materials. Inorganic waste that is commonly encountered on a daily basis includes plastic bags, cans, aluminum, glass bottles, Styrofoam, cardboard, textiles, and others. Types and colors of trash

cans commonly used for recycling and garbage disposal: Blue for recycled paper, green for suitable for recycling plastic and glass, brown used to recycle metals, yellow for other recycled materials, and black or gray for non-recyclable waste. In organic waste processing, participants were trained to make liquid organic fertilizer by fermenting waste from fruit peels.

Processing fruit leather waste into Liquid Organic Fertilizer can save the cost of using fertilizers because chemical fertilizers can be replaced with liquid organic fertilizers. The process of fermenting fruit waste into liquid organic fertilizer is one of the effective alternatives to organic waste disposal. The waste used is banana peel waste. The fermentation process lasts for 24 days. The bio starter used is EM4 which is a mixture of beneficial microorganisms. The number of fermented microorganisms in EM4 is approximately 80 species. Among the many microorganisms, there are 5 main groups, namely photosynthetic bacteria, lactobacillus, Streptomyces's, yeast and actinomycetes. Nur et al. (2014). The use of fruit waste into liquid organic fertilizer has been widely carried out, including from pineapples and dragons (Marjenah et al., 2017). Machrodania et al. (2015) conducted a study on the use of liquid organic fertilizer made from banana peels, eggshells, and *Gracillaria gigas* on the growth of soybean plants var Anjasmoro. Jalaluddin et al. (2016), processing organic waste from fruits into fertilizer using additional effective bioactivators of mycoorganisms (EM4).



Fig 1. Seminar and Workshop Waste sorting and processing Waste into liquid fertilizer.

Making slogans on pamphlets on loving the environment with participants from Aisyiyah and Muhammadiyah Association, Muhammadiyah Student Association and UMMU Salamah Orphanage. Participants were trained to create digital posters using the Canva program, in addition to Improve their skills or knowledge in the field of design using computer, the posters can be used to be used to information to the community in order to environmental quality (Figure 2).



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Fig 2. Digital poster training environmental**IV. CONCLUSION**

Community service activities love for the environment movement in the form of education, preservation, and maintenance of the environment. Increase public awareness which is still low in preserving and maintaining the environment, as well as adding environmental insight in sorting of organic, inorganic, and B3 waste, and can manage organic waste into manage organic waste into liquid fertilizer. Increased expertise in the field of computer design can support skills in making environmental posters.

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REFERENCES

- [1] Risnawati Risnawati, Sri RizkiHandayani, 2021. Caring for the Environment: Campaign and Implementation of Clean and Healthy Living Behavior (PHBS) in the Kelurahan Environment.
- [2] Margaret Chan, 2022. The Epidemic of Non communicable Diseases in Asia-(Financially) Sustainable Solutions, AMAC.
- [3] Ministry of Health, RI. (2017). Guidelines for the Field of Study of Waste Disposal, Academy of Health Inspectors of Sanitation Technology (APKTS). Jakarta: Central Sanitation Personnel Education Development Project of the Ministry of Health.
- [4] Leovini, H. (2012). Utilization of Liquid Organic Fertilizer in Tomato Plant Cultivation (*Solanum lycopersicum* L.). Department of Agricultural Cultivation, Faculty of Agriculture, Gadjah Mada University.
- [5] Roidah, I.S. (2013). Benefits of Using Organic Fertilizers for Soil Fertility. *Journal of Tulungagung Bonorowo University*, 1 (1): 30-42
- [6] Hadisuwito, S. (2012). Making Liquid Compost Fertilizer. Jakarta: PT Agromedia Pustaka.
- [7] Huda, M.K. (2013). Manufacture of Liquid Organic Fertilizer Dai Cow Urine with Additive Tetes (Molasse) Fermentation Method. Thesis. Semarang State University.
- [8] Febrianna, M., Prijono, S., Kusumarini, N. (2018). Utilization of Liquid Organic Fertilizer to Increase Nitrogen Uptake and Growth and Production of Mustard (*Brassica juncea* L.) on Sandy Soil. *Journal of Soil and Land Resources*, 5 (2): 1009-1018.
- [9] Hajar Nur Setyowati, Mu'Arif, 2014. Srikandi-Srikandi Aisyiyah, Suara Muhammadiyah Publisher.
- [10] Reni Mulyani, Devi Indah Anwar, Neneng Nurbaeti, 2021. Utilization of Organic Waste for Compost Fertilizer and Cultivation of Maggot as Animal Feed, *Journal of community empowerment*, Vol 6 No 1.
- [11] Teti Nuryanti, Amalia Nur Milla, Endang Tri Astutiningsih, 2023. Effectiveness of Subsidized Fertilizer Distribution at the Farmer Level in Sukabumi District, Sukabumi Regency, *MAHATANI: Agribusiness and Agricultural Economics Journal*.
- [12] Nur, T. Rizali, A., and Muthia E, 2016. Making Liquid Organic Fertilizer and Household Organic Waste with EM4 (Effective Microorganisms) Bioactivator. Lambung Mangkurat University South Kalimantan, Conversion, 5 (2): 5-12.
- [13] Marjenah, W.K. 2017. Utilization of Fruit Peel Waste as Raw Material for Making Liquid Organic Fertilizer. *Journal of Tropical Forest*, 1 (2): 120-127.
- [14] Machrodania, Yuliani, and Ratnasari, A, 2015. Utilization of Liquid Organic Fertilizer Made from Banana Peels, Egg Shells and *Gracillaria gigas* on the Growth of Soybean Plants var Anjasmoro. *Lentera Bio*, 4 (3): 168-173.
- [15] Jalaludin, Nasrul Z.A., and Rizki, S, 2016. Processing of Fruit Organic Waste into Fertilizer by Using Effective Microorganisms. *Journal of Unimal Chemical Technology*, 5-(1): 17-29.