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KKN Promotes a Clean Environment: Sorting, Composting, and Waste Facilities in RT.01, RW.01 Pematang Gubernur

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Abstract. Due to population growth and wasteful consumption patterns that exceed management capabilities, waste has become a major problem in various communities, including in Indonesia. The accumulation of waste causes methane gas emissions, environmental pollution, and aesthetic and public health problems. The situation is exacerbated by the lack of facilities, integrated systems, and public awareness. Real Work Lecture (KKN) offers practical solutions and encourages strategic behavioral change. The purpose of this study was to determine how KKN impacts waste management in RT.01, RW.01 Pematang Gubernur, including sorting, composting, and utilization of waste facilities; in addition, to find factors that influence the success of the program. Planning, action, observation, and reflection are components of the participatory action research approach. The study will be conducted from June 11 to July 4, 2025 in RT.01, RW.01 Pematang Gubernur Village, Muara Bangkahulu District, Bengkulu City. Data were collected through documentation and in-depth interviews with community leaders and community representatives. Data analysis is a qualitative description technique in which data is reduced, presented in the form of narratives, descriptions, tables, or images, and then conclusions are drawn to ensure the sustainability of the program. The waste sorting program does many things, such as sorting organic and inorganic waste, making compost, and making trash bins. The purpose of this program is to increase public awareness, reduce the amount of waste disposed of at the landfill, and make the environment cleaner. The creation of organic and inorganic trash bins aims to facilitate waste sorting from the source and increase public awareness of responsible waste management. The KKN team also educates and facilitates household waste sorting. Compost is made with ash produced from burning organic waste to increase soil fertility and manage waste independently. As a result, this KKN program focuses on increasing public awareness and environmental cleanliness practices through household waste sorting, composting, and providing waste management facilities. It is hoped that this will result in a cleaner, healthier, and more sustainable environment in the community.

Keywords: *Sorting, Composting, Waste Facilities.*

INTRODUCTION

Waste has become a significant problem for many communities around the world, including in Indonesia. Increasing population and more wasteful consumption patterns have led to large accumulations of waste, often exceeding current management capacity. The accumulation of waste has many negative effects on the environment, including environmental pollution such as water and soil, methane gas emissions that exacerbate climate change, and aesthetic and public health issues. The limited facilities and integrated systems, as well as the lack of public awareness of the importance of effective waste management, add to the

complexity of this problem. As a result, to overcome this waste problem, collective and sustainable efforts are needed, especially at the community level closest to the source of waste generation. In situations like this, the Real Work Lecture (KKN) activity has a strategic function to encourage behavioral change and bring concrete solutions to the community. An important step towards a cleaner and more sustainable environment is comprehensive waste management, which includes sorting, composting, and utilization of waste facilities. By directly involving the community in good waste management practices, it is hoped that awareness and independence in maintaining environmental cleanliness will increase. The purpose of this study is to explain how KKN can influence the community in RT.01, RW.01 Pematang Gubernur in waste management efforts and also to find factors that influence the success of the program.

RESEARCH METHODS

This community service research uses the Participatory Action Research approach. This approach was chosen because it is in accordance with the characteristics of the Real Work Lecture (KKN) activities, which focus on solving real problems in the community through active involvement and cooperation of students with the community. Planning, acting, observing, and reflecting are part of the applied action research cycle.

1. Location and Date of Implementation: This community service activity was carried out in RT.01, RW.01 Pematang Gubernur Village, Muara Bangkahulu District, Bengkulu City, Bengkulu Province. This activity will be carried out during the KKN of Dehasen University Bengkulu from June 11 - July 04, 2025
2. Subject and Object of Community Service: This community service is aimed at all residents of RT.01, RW.01 Pematang Gubernur Village, who have actively participated in the clean environment movement program.
3. Data Collection Methods: Data in this community service research was collected using several techniques, such as:
   a. Participatory Observation: KKN students actively participate in all activities and directly observe interactions, behavioral changes, and community dynamics related to waste management.
   b. In-depth Interviews: Interviews with community leaders (RT/RW Heads, LPM, and Environmental Cadres, if any), and community representatives to learn about perceptions, knowledge, and involvement as well as the impact of the program on waste management awareness and practices.
   c. Documentation: Data collected includes daily records of KKN activities, lists of socialization and training participants, photos and videos of activities, and other relevant supporting data.
4. Data Analysis Methods
   Qualitative descriptions are used to analyze the collected data. The analysis process consists of two parts:
   a. Data Reduction: Sorting and selecting relevant data for service purposes;
   b. Data Presentation: Presenting data in the form of narratives, descriptions, tables, or images to make it easier to understand and Presenting data in a form that makes it easier to understand.
   c. Conclusion Drawing: Determine the progress, difficulties, and suggestions for program sustainability based on the results of data analysis. Hopefully this draft of "Research Methods" helps you! You can further adjust it according to the details of the actual KKN operation.

RESULTS AND DISCUSSION

The activities carried out include sorting organic and inorganic waste, making compost and making trash bins.

Organic and Inorganic Waste Sorting Activities

One of the main work programs of the Real Work Lecture (KKN) in RT.01, RW.01, Pematang Gubernur is the sorting of organic and inorganic waste. This program aims to increase public awareness of the importance of early waste sorting, reduce the amount of waste that reaches the Final Disposal Site (TPA), and create a cleaner and healthier environment. Waste in RT.01, RW.01, Pematang Gubernur is still a major problem, because most of the waste is disposed of without sorting, causing waste accumulation and possible environmental pollution. The main problem is the public's ignorance about the types of waste and how to manage it. As a result, the KKN team made efforts to educate and facilitate waste sorting activities at the household level.

The purpose of the activity is to increase public awareness of the differences between organic and inorganic waste, encourage each household to sort waste independently, reduce the amount of waste disposed of at the landfill, and increase public awareness of the importance of maintaining environmental cleanliness. Opening opportunities to utilize organic waste (compost) and inorganic waste (recycling) for economic or environmental benefits. Time and Location of Implementation: The activity will start on June 20-22, 2025 at RT.01, RW.01 Pematang Gubernur [KKN Group 3 Post at RT.01, RW.01 Pematang Gubernur].

Figure 1 Documentation

Compost Fertilizer Making Activities

One great way to turn leftovers into valuable fertilizer is to make compost using burning, or more precisely, using the ash produced from burning organic waste. This process is very important for KKN because it can help communities manage waste and improve soil fertility independently. Although direct burning of organic waste is not recommended for traditional composting because it removes many nutrients, the resulting ash is full of important minerals such as calcium, magnesium, and potassium, which are essential for plant growth.

The collection and controlled burning of organic waste such as rice husks, straw, or wood waste is part of the process. After that, the ash is added to the compost pile along with

fresh organic waste (livestock manure, kitchen scraps, and crop residues) and other dry materials. The addition of ash does two things: it provides micro and macro nutrients and helps stabilize the pH of the compost mixture. Turning the compost pile regularly is essential to maintain a rich carbon-nitrogen balance, as well as to maintain adequate moisture and aeration levels.

The compost will mature and be ready to be used as fertilizer after the supervised decomposition process is complete. The compost is dark in color, crumbly in texture, and has the smell of fertile forest soil. In addition to reducing the amount of waste that accumulates, this method offers a sustainable way to obtain local organic fertilizer. Ultimately, this will increase agricultural productivity and the welfare of the community in the KKN area.

Figure 2 Documentation

Making Organic and Inorganic Waste Bins

One of our Community Service Programs (KKN) is the creation and socialization of separate trash bins to increase environmental awareness and cleanliness in RT 01 RW 01 Pematang Gubernur. Initial observations showed that most people mix organic and inorganic waste, indicating that waste management in this area is still not optimal. This condition causes unhygienic waste accumulation and complicates the composting and recycling process. As a result, the KKN group began to create two different trash bins: one for organic waste and one for inorganic waste. The goal is to facilitate waste sorting from the source.

The making of these trash bins begins with design planning that is adjusted to the environment and available raw materials. We choose cheap and easily accessible materials, such as old wooden planks reinforced with a simple frame. To ensure effective visual education, each trash bin is clearly labeled and has easy-to-understand iconography to distinguish organic waste (food scraps, leaves, etc.) from inorganic waste (plastic, paper, metal, etc.). After the trash bins are made and placed in locations that are easily accessible to people. With the presence of these separate trash bins, it is hoped that the community will be more aware of the

importance of responsible waste management, so that the environment of RT 01 RW 01 Pematang Gubernur becomes cleaner, healthier, and more sustainable.

Figure 3 Documentation

CONCLUSION

The journal entitled "KKN Menggerakkan Lingkungan Bersih: Pemorahan, Kompos, dan Fasilitas Sampah di RT.01, RW.01 Pematang Gubernur" discusses the Kuliah Kerja Nyata (KKN) initiative that focuses on increasing awareness and practices of environmental cleanliness in the Pematang Gubernur area, especially RT.01, RW.01. This program aims to address waste and cleanliness issues using a broad approach. This approach includes three main pillars of education and implementation: household waste sorting, composting from organic waste as a sustainable solution, and providing and optimizing adequate waste management facilities. By implementing these programs, it is hoped that there will be a major change in community behavior towards better environmental management. Ultimately, this will result in a clean, healthy, and sustainable living environment for everyone living in the area.

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