

Community Service Apply Technology To Support A Green Economy In The Bait Qurani Islamic Boarding School In Bogor District

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Abstract.

Bait Qurani was founded in 2008, under the leadership of Ustad Mahsum Salim. This Islamic boarding school is here to build an intelligent, Hafiz and Moral generation based on sincere intentions fi sabilillah. The results of a survey by a team of lecturers and students from Mercubuana University show that there are several problems that occur in this Islamic boarding school, such as large piles of organic and inorganic waste, the absence of a data collection system for students and a lack of knowledge about product sales. Based on the background above, the aim of holding this PKM activity is to provide learning about the importance of this waste problem which must be overcome, through several activities, where this worthless waste will become valuable, namely through technological processing using a composter, where this organic waste will be processed by fermentation to produce liquid fertilizer that can be sold. Likewise, inorganic waste can be recycled into valuable and useful items such as wallets, etc. To collect student data in Islamic boarding schools, how to sell using Smart Application digital marketing. It is hoped that this community service activity can solve problems in Islamic boarding schools, student data collection will be easier and will improve economic levels, so that the welfare of managers will increase.

Keywords: Organic waste, inorganic waste, academic system, digital marketing and smart application.

I. INTRODUCTION

The Bait Qurani education program is increasingly in demand by the public. Currently we have built a school and Islamic boarding school building, Campus 1 on Jl. Melati Atas RT 03/RW 05, Campus 2 on Jl. Swadaya RT 02/RW 05 Bubulak Village, Bojongkulur, Gunungputri, Bogor. Bait Qurani Islamic Boarding School continues to innovate and improve services, da'wah and education in line with the needs of the people, both formal and non-formal, based on sincere intentions fi sabilillah. Based on the results of a survey by a team of lecturers and students after meeting with Ustad Mahsum Salim with complaints that in the Islamic boarding school environment there is a lot of unprocessed rubbish, so the environment becomes dirty and smells bad, this can cause disease for the residents around it. Organic waste is goods that are considered unnecessary and thrown away by previous users, but can still be used if managed using the correct procedures [1]. Organic waste is waste that comes from nature or is produced from natural activities. Garbage or organic waste can experience weathering (decomposition) and break down into smaller, odorless materials. In general, the components that are most commonly found in waste in several cities in Indonesia contains plant remains that reach 80-90%, sometimes even more. The waste in this Islamic boarding school is also the same, they throw away cooking waste in the kitchen and other rubbish somewhere until it piles up. Therefore, one way to handle it is to process it into fertilizer, the main ingredient for making fertilizer is organic waste [2-4].

Inorganic waste is waste produced from non-biological materials, either in the form of synthetic products or the results of technological processes for processing mining materials. One treatment. Inorganic waste is recycled so that it can be turned into something that has value and function. The definition of recycling referred to here is one of using used goods to be reused into useful goods or can also be processed into goods that can be bought and sold [5-8]. One way is to separate organic, inorganic, food waste and plastic trash cans. Research results prove that by getting used to disposing of waste according to its category, people will become more skilled in processing waste, people will be more skilled in managing waste, and people will be able to be creative with inorganic waste through transforming paper and plastic waste into works of art as added economic value [9 - 14]. With this recycling, it is hoped that environmental pollution can be overcome. Processing waste that was originally worthless will become more valuable, apart from contributing to

preventing environmental pollution and helping the movement for love of the environment, with proper waste processing this activity will increase the income of the community, especially in terms of This is the boarding school administrator. So far, they do not understand the proper way to manage waste and where other complaints are made to the Finance department it is still done manually that financial or accounting filing is still not well organized. Based on the background above, the aim of holding this PKM activity is to provide learning about the importance of this waste problem which must be overcome, through several activities, where this worthless waste will become valuable, namely through technological processing using a composter, where this organic waste will be processed by fermentation to produce organic fertilizer that can be sold, then the income of the boarding school administrators will increase.

Likewise, inorganic waste can be recycled into valuable and useful items such as wallets, trash cans and so on. Another problem with this Islamic boarding school is that it does not have a system to record student and student data collection as well as financial income and expenditure where all these activities are carried out manually, this makes it difficult to control it and there is a possibility that errors will occur in data collection.

1. Partner Problems Based on the situation analysis described above, the partner's problems are stated as follows:

Table 1. Partner problems at the Bait Qurani Islamic boarding school.

No	Partner Issues and Description	
	The problem	Description
1	Accumulation of organic waste.	Islamic boarding school administrators collect organic waste and will be given training on making liquid fertilizer from organic waste, especially vegetables and fruit)
2	Accumulation of inorganic waste.	Islamic boarding school administrators collect inorganic waste and will be given training on recycling inorganic waste to make goods.
3	There is no system for collecting data on students and teachers, simple accounting and digital marketing for selling products resulting from community service	Islamic boarding school administrators will be introduced to knowledge systems and training in administrative software, simple accounting and digital marketing.

Priority problems are described as follows

1. Accumulation of organic and unprocessed waste.

Islamic boarding school administrators will collect organic waste and will be given training on making products from organic waste into liquid fertilizer.

2. Accumulation of inorganic and unprocessed waste.

Islamic boarding school administrators collect inorganic waste and will be given training on recycling inorganic waste to make useful items.

2. There is no knowledge regarding the application of a digital accounting system to record transactions and financial reporting in the business units that will be created by Islamic boarding schools which are planned to sell the results of liquid fertilizer production and the results of recycling inorganic waste.

3. Islamic boarding school administrators must carry out financial income and expenditure recording activities which are still done manually, this makes it difficult to find the data needed in terms of preparing and making financial reports.

Related to MBKM, this activity involves students who will be recognized in certain courses totaling 6 credits. The Main Work Indicators (IKU) included in this activity are IKU 2 and 3. The focus of this community service is the green economy.

3. Objectives of Implementing Activities:

1. Partners are able to make liquid fertilizer.

2. Partners are able to make handicrafts from recycled inorganic waste

3. Partners are able to operate simple academic and simple accounting systems for recording transactions to produce financial reports.

4. Implementation of community service activities

The community service team chaired by Dr. Nurato from the mechanical engineering department held the next meeting at the Bait Qurani Islamic Boarding School in Bogor on August 23 2024, discussing the technical implementation of community service. Next, the community service team held the implementation on August 24 2024. Equipment in the form of a complete composter, support equipment for the composter, E4 microbes, sprayer, organic waste bin and organic waste bin, 5 units each, were sent to the partner's address at the Islamic boarding school, Campus 1 on Jl. Melati Atas RT 03/RW 05. Community service activities were carried out at Islamic Boarding School campus 1, which was attended by 25 participants, starting with the opening, handing over of technological equipment, material presentations, training and practice.

This Community Service Activity is funded by the Ministry of Education, Culture, Research and Technology (Kemdikbudristek). The results of this community service activity are in the form of technological tools, journals, IPR and increasing the ability of human resources to produce work in the form of liquid fertilizer, and handicrafts and training using academic software, making accounting reports and digital marketing using Smart Applications. It is hoped that the results of this activity can improve the economic level of the participants from the Islamic boarding school by using it to sell liquid fertilizer and handicrafts from organic and inorganic waste, where this useless waste becomes very useful and actually makes money, based on the results of the participant's questionnaire, almost 90% are very approve this community service activity

4.1. Processing Organic Waste Into Liquid Fertilizer

The Community Service Team presented training material on making liquid fertilizer from organic waste. Then practice with the participants. Organic waste that has been separated by partners is chopped and put into the Fermenter machine, figure 1. The waste consists of 80% wet organic waste and 20% dry. The Community Service Team explained in detail and they immediately put it into practice. After the organic waste is added into the fermenter, every 7 days the composter window is opened so that the gas comes out of the fermenter. After 21 days of leaving it, God willing, liquid fertilizer will come out of the hose at the bottom of the composter. Before being put into the Fermenter, the organic remains from the kitchen are reduced in size. Sliced with a knife or with a chopping tool. If you want composting to take place more quickly, you can add starter fluid for compost such as EM4 or Boischa Bio Activator. This liquid contains microorganisms which will help the composting process run faster.

To get more active microbes, the EM4 bio activator liquid can be dissolved first in water with the addition of molasses or sugar water. The solution is stored in a closed container for several days until it smells of a distinctive sweet and sour aroma. After being sprayed or moistened with this starter liquid, the materials are put into the composter. This process can be done at any time until the composter is full. In this composting process, apart from producing solid fertilizer, it also produces liquid fertilizer/leachate. Apart from containing the remaining compost starter water which contains microbes, this liquid also contains liquid that comes out of rotting organic material. The liquid collected at the bottom can be used as liquid fertilizer. Liquid fertilizer that is too thick or not cooked properly will actually make your plants overheat and even die. Liquid fertilizer needs to be diluted before use. A number of practitioners prescribe one part of this liquid fertilizer to be mixed first with twenty- five parts of water and then given to the plants. Please experiment with dilutions, for example 1: 10, 1: 15 or 1: 20. After the organic waste has been fermented for 3 weeks, from 100 kg of waste, 3 L of liquid fertilizer is obtained which is ready to be used and sold. The activity of making liquid fertilizer was carried out on 24 August, seen in figure 2.

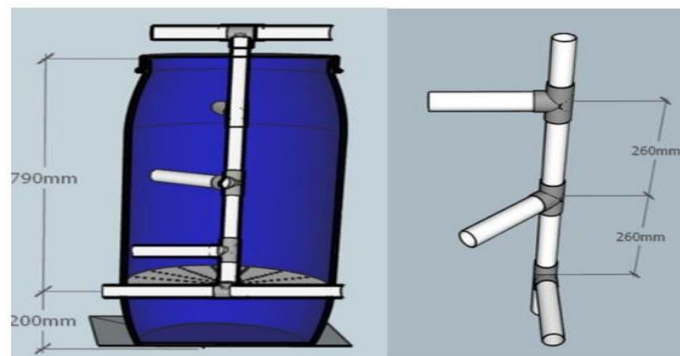


Fig 1. Composter tool design



Fig 2. Extension activities and practices for making liquid fertilizer

4.2. Processing of organic waste into handicraft goods.

Inorganic waste that has been separated by Partners is cleaned and tidied, sorted out what can still be used. Tools and equipment are prepared such as scissors, knife, glue gun, zipper, needle, thread/sewing machine and so on. The craft items made are bags, tissue holders, wallets and other pouches. The community service team put it into practice and was immediately followed by participants from the Bait Qurani Islamic boarding school, as seen in Figure 3.

Fig 3. Training in making handicrafts from inorganic waste



4.3. Academic Software, Accounting and Digital Marketing Smart Applications.

In the academic software outreach and training activities for student and teacher data collection which were carried out specifically for the HR team managing the Bait Qurani Islamic boarding school, they were very enthusiastic because up to now data collection was still done manually, so that data collection and recording became easier and faster. Furthermore, activities to improve economic levels through the product results of this PKM activity are through digital marketing learning, photos of the activities are shown in Figure 4.



Fig 4. Academic software training activities, simple accounting and digital marketing from Smart Applications

II. CONCLUSION

Community service activities at Bait Qurani Islamic Boarding School Partners have been carried out and completed according to targets, which include:

1. Processing organic waste into liquid fertilizer.
2. Processing inorganic waste into handicraft items.
3. Preparation of Smart Application academic, accounting and digital marketing systems.

The output of this activity is in the form of: activity videos, publications on online media *Jurnalkampus.com*, scientific publications in international journals, intellectual property rights (copyright)/IPR, increasing public understanding and skills.

III. ACKNOWLEDGEMENTS

We, the researchers, would like to thank Mercubuana University and the funding provider, the Ministry of Education, Culture, Research, and Technology (Kemdikbudristek) through the Directorate General of Higher Education, Research, and Technology (Ditjen Diktiristek) in activities community service apply technology to support a green economy in the bait qurani islamic boarding school in bogor district, 2024. So that this activity can be carried out well and the results of this community service activity are very useful, especially for the Pengelola pesantren Bait Qurani, Bogor.

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