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Socialization And Counseling on How yo Use Appropriate Technology for Wood Crushing Machines in Sukaluyu Village, Pangalengan District, Bandung Regency

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Abstract

The purpose of this community service program is to (1) Provide knowledge to village communities about how to utilize appropriate technology in everyday life. (2) Provide guidance in completing the utilization of appropriate technology according to the needs desired by the village community properly and correctly. The method of implementing this community service activity is carried out by providing guidance on how to apply and complete the tools that will be used at the village, sub-district, district, provincial, and national levels. (1) At the beginning of the activity, provide basic knowledge and concepts about the material on how to make the tools that will be used. (2) Provide training and examples in completing an activity about appropriate technology that will be used. (3) The final stage, the community is asked to be able to apply it in everyday life properly and correctly, so that from this community service activity the community can utilize existing resources for the common good, namely in oyster mushroom cultivation.

Keywords: Wood crusher machine, appropriate technology, Sukaluyu, mushroom cultivation.

1. Introduction

In the era of globalization like today, technological developments are increasingly rapid, we inevitably have to improve the quality of human resources in various fields (Sparrow, 2016). To improve human resources, one of them is in the field of education (Pusvitasari, 2021). In other words, to prepare for the global era, we must have good quality education, so we must continuously improve the quality of this education sector (Malik, 2018). One way to find out the improvement in the quality of education is by holding activities for the application/utilization of appropriate technology at the village, sub-district, district, provincial and national levels.

The application of appropriate technology is a competitive arena to measure the ability of the community in various fields, languages and so on (Chang, 2024). The application of appropriate technology carried out by the community is one form of government effort to realize the goal of utilizing technology in accordance with existing conditions and to improve the quality and ability of the way of thinking of the community in general (Cahyandari, 2024). The quality and ability of the way of thinking is defined as the capacity of the community to use scientific knowledge, identify questions and draw conclusions based on facts and data to understand the universe and make decisions from changes that occur due to human activities (Sparrow, 2016).

Almeida (2023) also said that scientific literacy is the ability to use scientific knowledge, identify questions, and draw conclusions based on evidence in order to understand and make decisions regarding nature and changes made to nature through human activities. From this understanding, it is necessary to provide special guidance for the next generation of the nation who understand the technology that exists today (Goldman, 2013). The socialization activity for the use of wood crushers is not only aimed at increasing production efficiency, but also to raise public awareness of the importance of technology in supporting local economic activities. Through a technology-based community empowerment approach, it is hoped that the people of Sukaluyu Village can be independent and competitive in the agribusiness sector, especially in the sustainable mushroom cultivation industry.

2. Methods

2.1 Type of activity

This activity is a form of community service carried out through an educational and participatory approach, with the main objective of transferring appropriate technology in the form of wood shredders to the people of Sukaluyu Village. The approach used is community-based empowerment, where the community is actively involved in the entire series of activities, from socialization, training, to evaluation.

2.2 Location and Time of Implementation

The activity was carried out in Sukaluyu Village, Pangalengan District, Bandung Regency, West Java. The implementation time of the activity lasted for two weeks, namely in August with the division of time between planning, implementation of socialization and training, and monitoring of machine use.

2.3 Subject of Activity

Participants of the activity consisted of mushroom farmer groups in Sukaluyu Village, community leaders, and representatives from the village's Karang Taruna. The number of participants actively involved was 25 people who were direct actors in the oyster mushroom cultivation process on a household to medium scale.

2.4 Data analysis techniques

Data were collected through field observations, interviews, and questionnaires before and after the activity. Analysis was conducted descriptively qualitatively to evaluate changes in participant understanding and the effectiveness of machine use in mushroom cultivation activities.

3. Results and Discussion

Guidance conducted for the Sukaluyu village community was first given material that aimed to find out the extent of the community's understanding of the use of appropriate technology that is always desired by other communities. When the resource person delivered the material, the community was very enthusiastic in following it. This is because the resource person delivered the material using pictures and directly demonstrated the material being explained. After the resource person finished providing the material, it was continued with a discussion related to the types of equipment that had been explained which had been prepared by the community service team at the manufacturing engineering study program level as an illustration of the process that must be carried out next and discussing the dictates given by the community service team properly and correctly.

The community is asked to ask as many questions as possible about the available tools according to the presentation of each speaker. After finishing answering questions from the community, the resource person together with the community and KKN students of the Bandung Manufacturing Polytechnic discussed the future activity plan by providing a detailed explanation, so that it can be implemented in the future. The implementation of guidance on appropriate technology for the community has increased in understanding the materials presented before the technical guidance. This can be seen when the resource person delivered the material, several people in the community were very enthusiastic in paying attention and asking questions about the materials presented.

The materials presented by each resource person are different according to their expertise. Almost all of the community can answer it better than before being given guidance. Of all the people who participated, almost all of them were able to answer and complete the tasks correctly, there were only a few that they considered difficult and had never been taught.

In this technical guidance, there are many similarities in understanding between the presenters and the community about the material they have understood so far with the actual concept. So that it makes it easier for us to answer correctly, but there are also some people who blame. So that with the guidance by the team from the mechanical engineering study program, the community's understanding and insight into appropriate technology can be maximized.

The results of the activity showed that the participants had high enthusiasm for appropriate technology innovation, especially those directly related to their cultivation activities. The counseling provided included an explanation of the working principles of wood shredders, the benefits of using the tool, and its impact on the efficiency of oyster mushroom planting media production. In the practical training session, participants were invited to directly see the assembly and operation process of the machine in stages.

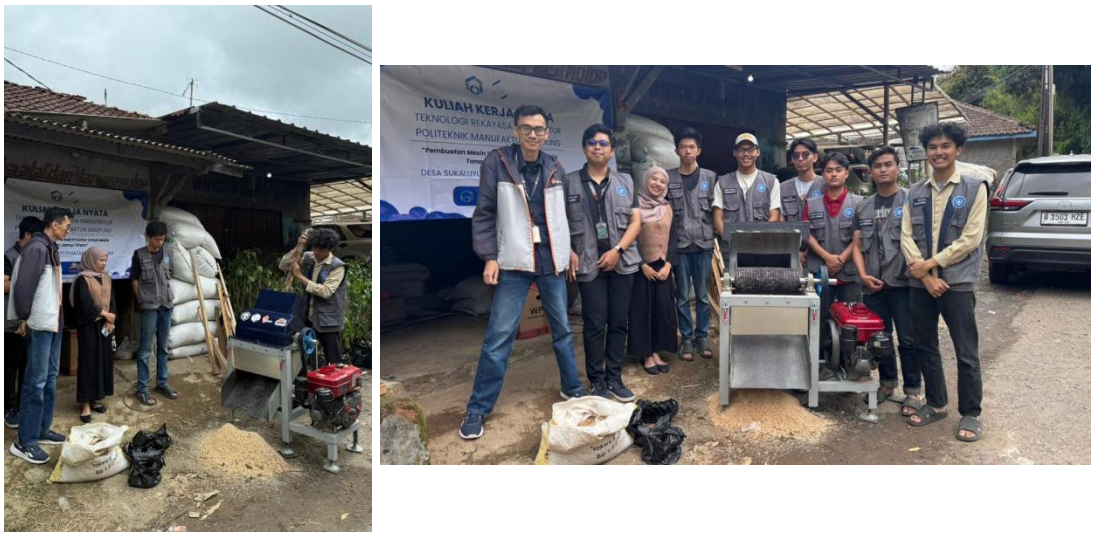

Figure 1. Delivery of Community Service Material with Team

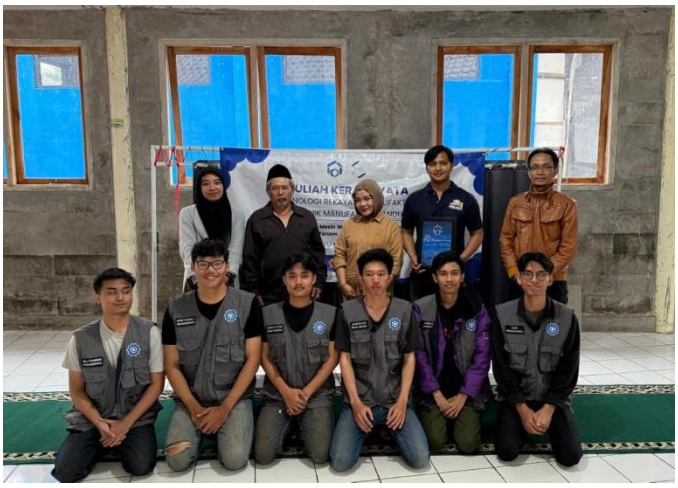

Figure 2. Community Service Participants

Socially, this activity increases the spirit of mutual cooperation and technological awareness among the community, especially novice mushroom farmers and members of Karang Taruna. They began to form small working groups to collectively manage the use of the machine. From an economic perspective, several participants reported that within one month of using the machine, they were able to increase baglog production by 30%, and some had started selling sawdust to mushroom farmers in surrounding villages. This shows the potential for the emergence of new businesses based on appropriate technology in the village.

Obstacles encountered during the activity were the limited initial understanding of some participants regarding machine components and the lack of personal protective equipment during initial practice. However, this can be overcome with additional counseling and the provision of simple manual modules containing pictures and work steps.

In general, this community service activity succeeded in increasing the understanding and skills of oyster mushroom farmers in utilizing appropriate science and technology. It is hoped that in the future further development can be carried out in the form of training in making similar machines on a larger scale and entrepreneurship assistance so that farmers not only produce mushrooms, but are also able to sell the machines they design to other farmers.

4. Conclussion

The extension and training activities of appropriate science and technology in making wood shredder machines for oyster mushroom cultivators in Sukaluyu Village, Pangalengan District, Bandung Regency, have had a real impact on increasing the efficiency and quality of mushroom planting media production. Through a participatory approach, participants were able to understand the working principles and how to assemble the machine directly and apply them in daily cultivation activities.

This wood shredder technology has been proven to accelerate the process of shredding materials, producing more uniform sawdust, and reducing dependence on manual processes that are time-consuming and labor-intensive. In addition, this activity also increases community understanding of the application of appropriate science and technology, opens up new insights in innovation of production tools, and fosters a spirit of independence and mutual cooperation.

Thus, this community service program not only provides technical solutions to problems faced by the community, but also becomes a strategic step in empowering mushroom farmers in a sustainable manner. It is hoped that similar activities can continue to be developed in other areas with similar problem characteristics

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