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EMPOWERMENT OF TUNAS BARU FARMER GROUP OF DENAI BIRD'S NEST VILLAGE THROUGH INCREASING ADDED VALUE AND UTILIZATION OF AGRICULTURAL PRODUCTION RESIDUES

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Abstract

The community service program aims to improve production efficiency and add value to the Tunas Baru Farmer Group in Denai Sarang Burung Village, Deli Serdang, North Sumatra. The farmer group faces challenges in separating rice and rice husk due to their reliance on mobile rice milling services (odong-odong). Through the provision of a rice milling machine, this program helps enhance the quality of rice and utilize the husk as animal feed, ultimately providing a positive impact on the sustainability of agricultural production and the household economy of the farmers.

Keywords: Farmer household economy, production efficiency, rural development, sustainable farming practices, value-added agriculture

INTRODUCTION

The agricultural sector is the backbone of the economy in North Sumatra, with a significant contribution to Gross Regional Domestic Product (GRDP), which amounted to 23.01% in 2022. One of the regions with the largest food crop production, especially rice, is Deli Serdang Regency. In 2021, Deli Serdang recorded a rice surplus of 41,830.40 tons or 15.88%, with Pantai Labu Sub-district as the largest contributor to the surplus. Denai Sarang Burung Village, located in Pantai Labu Sub-district, is one of the areas with great potential in the rice farming sector.

Denai Sarang Burung Village has ideal geographical conditions for agricultural activities. The village is located in a lowland area, with fertile soil, moderate temperatures, and humidity levels that are suitable for the growth of food crops, especially rice. The ease of access to this village, which is located approximately 42-46 km from Medan City, makes Denai Sarang Burung Village a strategic food production center.

Most of the villagers, around 22.15% of households, work as farmers or casual laborers, indicating that agriculture is an integral part of village life. Among the existing farmer groups, the Tunas Baru Farmer Group is one that actively produces paddy rice. Irrigation water management in the village is sourced from the Ular River, which helps maintain the productivity of the rice fields throughout the season.

Despite having great potential in rice production, farmers in Denai Sarang Burung Village face various obstacles, especially in terms of crop processing. One of the main problems is the reliance on the services of mobile rice milling machines, known as "odong-odong". The use of odong-odong services not only adds to production costs, but also often results in sub-optimal milling quality. Farmers do not have full control over the quality of the rice produced, both in terms of cleanliness and the ratio of rice to husk produced.

To overcome these problems, the provision of rice milling machines to the Tunas Baru Farmer Group is expected to be the right solution. The provision of rice milling machines allows farmers to increase production efficiency and utilize the husks as animal feed. This program will not only improve the quality of rice produced, but also provide added value to agricultural waste, as well as support the sustainability of the agricultural ecosystem in Denai Sarang Burung Village.

This initiative is in line with efforts to increase the capacity of farmers through the use of modern technology in agriculture. With better access to agricultural tools, farmers are expected to increase productivity, reduce production costs, and ultimately improve the economic conditions of farming households. In addition, this program also contributes to sustainable agricultural development, which is expected to preserve the environment and improve the welfare of rural communities in the long run.

METHODS

In the implementation of this service activity, solving partner problems is carried out through several structured and comprehensive stages. These stages aim to ensure the success of the program in increasing the efficiency of rice production and the added value of by-products, such as husks, which can be utilized by partners. The following are the stages of service implementation:

1. Preparation Stage

Partner Survey and Mapping

The initial stage began with a field survey to identify the conditions and problems faced by the Tunas Baru Farmer Group. This survey was conducted to get a clear picture of the needs of the partners, especially related to the tools needed to process agricultural products. Important data and information collected from this survey included the rice production process, milling methods used, as well as the level of efficiency and problems faced by farmers. This mapping also helps determine the best strategy in providing targeted solutions.

2. Socialization and Coordination

Socialization of Solutions to Partners

After the survey is completed, the next step is socialization to partners regarding the solutions that will be offered. The service team explained about the plan to provide a rice milling machine and its benefits for the Tunas Baru Farmer Group. At this stage, discussions were held about how the machine works, as well as how the use of this tool can increase production efficiency and the utilization of husks as animal feed. Socialization also aims to ensure that partners understand the objectives and stages of the service program.

3. Tool Provision

Provision of Rice Milling Machine

The core phase of the program implementation was the provision of a rice milling machine to the Tunas Baru Farmer Group. This machine was provided based on the survey and mapping results which showed that the farmers relied heavily on the services of a mobile grinder (odong-odong), which increased costs and reduced efficiency. With their own rice milling machine, the partners are expected to be able to process the harvest independently, thereby reducing production costs and improving the quality of milling results.

4. Machine Use Training

Operational Training of Rice Milling Machine

After the machine was handed over, the service team provided intensive training to members of the Tunas Baru Farmer Group on how to use the rice milling machine. This training covers technical aspects such as machine operation, tool maintenance, as well as how to optimize milling results so that the rice produced has better quality. In addition, the partners were also trained to utilize the husks as animal feed, so that this agricultural waste can become a significant source of added value for farmers.

5. Monitoring and Evaluation

Partner Progress Assessment

The final stage in the implementation of the service is the assessment and evaluation of partner progress. The service team conducted an initial condition assessment before the program began as a baseline to see the extent of the improvement that had been achieved. This evaluation is carried out periodically by observing the use of the machine by partners, the level of efficiency achieved, and the economic impact resulting from the utilization of this tool. If obstacles are found in using the machine, the service team will provide further guidance to help solve the problems faced by the partners.

RESULTS AND DISCUSSION

This community service program was carried out with the aim of helping to improve production efficiency and provide added value to agricultural products produced by the Tunas Baru Farmer Group in Denai Sarang Burung Village. As one of the progressive farmer groups, Tunas Baru Farmer Group has long developed its agricultural activities by growing various types of rice commodities, including Mekongga Rice, Inpari 32 Rice, and IR 64 Rice. The rice produced by this group falls into the premium rice category, indicating good product quality and great market potential.

However, despite its great potential, the farmer group still faces obstacles in terms of crop processing, especially in the rice milling process. Prior to this program, farmers in Tunas Baru Farmer Group relied on the services of a mobile rice mill, or commonly called "odong-odong", to separate the rice from the husk. This not only increased production costs, but also decreased the efficiency and quality of the milling results.

1. Handover of Rice Milling Machine

On August 25, 2024, a community service program was held in Hamlet I, Denai Sarang Burung Village. The event was attended by the Community Service Team from the Faculty of Economics and Business, University of North Sumatra, chaired by Dr. Syech Suhaimi, SE, M.Si. In this event, a rice milling machine was handed over to the Head of the Tunas Baru Farmer Group, Mr. Kardiman, as a representative of the service partner.

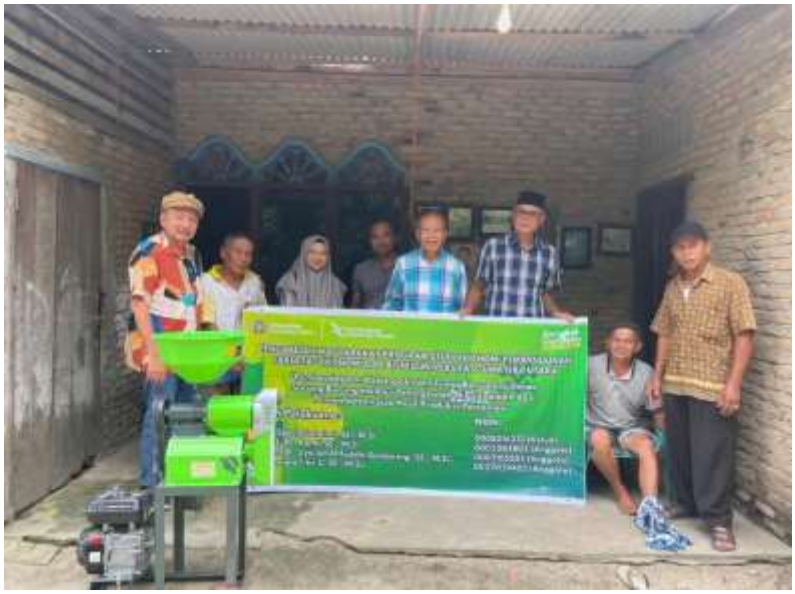

Figure 1 Handover of rice milling machine

The provision of this rice milling machine is a concrete step to help overcome the problems faced by the farmer group, namely dependence on the services of a rice miller. With their own rice milling machine, the farmer groups are expected to increase efficiency in processing crops, reduce production costs, and produce better quality rice. This handover marks the beginning of the use of more modern agricultural technology in Denai Sarang Burung Village.

2. Training on Operation of Rice Milling Machine

After the delivery of the machine, the service team also conducted operational training on the rice milling machine for members of the Tunas Baru Farmer Group. This training covered several important aspects, including:

- How to operate the rice mill machine correctly.
- Adjustment of milling quality according to needs, both for personal consumption and for sale in the market.
- Care and maintenance of machines so that they can be used for a long time and remain efficient.

The training aims to enable farmer groups to operate the machines independently without relying on mobile milling services. With the skills gained from this training, farmers can ensure that the milling process meets their needs, both in terms of the quantity and quality of rice produced. In addition, they are also taught how to separate the husks, which can then be utilized as animal feed, thus generating added value from previously underutilized agricultural waste.

Figure 2 Training on operation of rice milling machine

3. Economic Impact and Production Efficiency

Prior to the introduction of the rice milling machine, farmers had to pay for the services of a rice miller for a fee that could be in the form of harvested rice or in cash. This added an economic burden to farmers as they had to give up a portion of their harvest. The fee can be up to 1 kg of rice or the equivalent value in rupiah, depending on the market price at the time of the transaction. With the rice milling machine owned by the farmer group, they no longer have to pay extra for milling services. In addition, they have full control over the milling results, allowing them to maximize their yields and increase their income.

The use of rice milling machines also has a positive impact in terms of time and labor efficiency. Farmers no longer have to wait for their turn to use the services of a traveling miller, which is often inefficient and limited in availability. Now, they can grind paddy whenever needed, according to their harvest schedule. This provides greater flexibility in the crop processing process, which in turn can increase overall productivity.

4. Environmental and Sustainability Benefits

In addition to improving production efficiency, the program also contributes to environmental sustainability. The chaff produced from the milling process is no longer considered as waste that must be disposed of, but rather utilized as animal feed. Thus, this program supports the concept of sustainable agriculture that makes maximum use of every production product, without any waste. The utilization of chaff as animal feed also helps reduce the cost of feed that must be incurred by farmers, thus indirectly improving the economic welfare of farming households.

5. Evaluation and Assessment

After the training activities and the use of the rice milling machine, an initial evaluation was conducted to assess the effectiveness of the program. The results of the evaluation showed that farmers began to understand how to operate the machine properly, and some of them have started utilizing the machine to grind rice. Farmers also reported increased efficiency in terms of time and cost, as well as better rice quality compared to when using the services of a rice miller.

However, follow-up evaluations need to be conducted to ensure that the machines remain optimally utilized in the long term and that the partners have the full capacity to manage the machine operations independently. Monitoring and mentoring will continue to be carried out to ensure the ongoing success of this program.

CONCLUSIONS

This community service program showed potential in improving production efficiency and adding value to agricultural residues in Denai Sarang Burung Village. The provision of a rice milling machine and training on its operation allows farmers to improve rice quality and utilize the husks as animal feed. This activity is expected to have a long-term positive impact on the economy of farming households and the sustainability of the agricultural environment.

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