

DEVELOPMENT OF CASSAVA CHIP PRODUCTION IN THE KERANGGAN ECO-TOURISM VILLAGE BY IMPLEMENTING CREATIVE AND INNOVATIVE TECHNOLOGY

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ABSTRACT

The Golden Indonesia 2045 vision, particularly in achieving economic growth and improving citizens' welfare, relies heavily on sustainable regional development and enhanced local potential. Kampung Ekowisata Keranggan in South Tangerang is one example of an area with significant potential, supported by active community engagement. Its natural beauty, located on the banks of the Cisadane River, draws visitors, and local efforts, such as the establishment of a tourism awareness group in 2020, have contributed to managing these attractions. The growth of MSMEs, particularly in the snack food sector, has supported tourism, but challenges arise with the increasing demand for food production and product diversity. Many MSME actors struggle with the lack of tools to streamline production and offer a wider variety of products. This village empowerment program aims to address these challenges by introducing innovative and appropriate technology, supported by continuous community involvement, to accelerate production and maintain the uniqueness of the region's tourism.

Keywords: cassava, technology, production, ecotourism, msme

INTRODUCTION

The Keranggan Ecotourism Village is geographically situated in the Keranggan Village, which is the government partner in the implementation of this PkM program. The Keranggan ecotourism village is administratively located in the RW005 region, which encompasses RT012 and RT013, Keranggan Village, Setu District, South Tangerang City, Banten Province. The location map for the sustainable development plan is located in the innovative ecotourism area of Cisadane, which spans 20 hectares and is home to 280 households. The majority of the households are engaged in home industry businesses that produce a variety of local/traditional food products and handicrafts made from banana tree fronds. (Pramono et al, 2021)

Approximately 2000 visitors are recorded each month in Kampung Wisata Keranggan, which is consistently visited due to its high tourism potential and community involvement. Visitors to Keranggan Tourism Village are not only interested in experiencing a variety of tourism activities, but also in sampling the unique snacks of Keranggan and purchasing souvenirs in the form of creative handicrafts that are available. This demonstrates that Keranggan Tourism Village's appeal is not restricted to captivating tourist experiences; it also draws in local food enthusiasts and handicraft enthusiasts. Nevertheless, the surge in visitor traffic has also led to a greater demand for sustainable craft production and snacks. Food and craft production are currently not adequately supported by technology. While this does not diminish the enthusiasm for visits, there are instances in which the demand is insufficiently satisfied. Furthermore, nearly 67% of the small and medium-sized enterprises (SMEs) in the Keranggan snack sector have formed partnerships with local traders to serve as official retailers of the products.

Consequently, it is imperative to address the challenges posed by the growing demand by implementing technology that can enhance production efficiency and product diversification. (Sateria et al, 2022) By diversifying handicrafts and incorporating technology into production, Keranggan Tourism Village can more effectively address the challenges of increasing visitor numbers, improve the competitiveness of local products, and expand potential markets by offering a diverse range of products. (Naully et al, 2022) (Wardiah et al, 2020) This will enhance the welfare of artisan communities in the Keranggan Ecotourism Village, preserve cultural heritage, and stimulate the local economy. (Indardi, 2018) Furthermore, the implementation of suitable technology in the production of cassava chips can enhance efficiency, ensure consistent product quality, and more effectively manage high demand. (Arifudin, 2020) (Garside et al, 2020) (Widaninggar, 2022) (Riawati, 2019)

The MSME actors in Kampung Ekowisata Keranggan continue to employ manual methods in the production of handicrafts and refreshments. It has become a widespread concern that these conditions are irrelevant during periods of increased demand. The quality of production is also highly prioritized, in addition to the transition in focus to ensure availability. Nevertheless, the community complains that the production efficiency of manual methods is insufficient to resolve those two focuses when using conventional methods. This complaint raises concerns regarding visitor trust, particularly among loyal customers who may consider switching to alternative manufacturers. The current conditions and general issues of the Keranggan tourism village can be described as follows, based on the situational analysis and consultations with the relevant parties:

- At present, there is no instrument that can enhance the efficacy of production. In the home snack industry, traditional methods are rendered ineffectual when demand surges.
- The absence of technology application and limited knowledge, which could serve to improve the optimization of the production process. This results in a delay in production and a failure to meet the products' uniqueness and variation.



Figure 1. Manual production remains the primary method of cassava production



Figure 2. Cassava chips

METHOD

At present, manual production remains the primary method of production for MSME actors in the Keranggan ecotourism village. The production stability is being disrupted by the increasing demand, which is being influenced by the surge in visitors and the growing number of resellers. Visitors/tourists frequently inquire about the availability of products that have never been produced, such as keychains, batik, sambal, and other food preparations, in addition to purchasing the food and handicrafts currently on exhibit in the showcase. The community generally adheres to manual production methods in order to satisfy market demands, rather than emphasizing product diversification. Occasionally, this is not feasible; as a result, certain resellers are obliged to seek out alternative producers in order to satisfy their requirements, as the production facility's inventory is restricted. It has been long suspected that such practices pose a market threat to MSME players, in addition to the fact that they influence consumer trust.

The concerns of handicraft entrepreneurs are also felt when the demand from visitors is not consistently met. In light of this, the issue is subsequently defined as the absence of production support instruments that are both effective and efficient for cassava chips. Manual production is incapable of accommodating the expanded demand. This also leads to inconsistent quality, such as cassava slices that are dense in certain areas and thin in others, as well as a lengthy processing time. In light of the aforementioned issue, an alternative solution is suggested, which involves the procurement of cassava slicer machines for the home-based snack food industry group. This strategy involves the implementation of relevant technology. Furthermore, effective machine training and maintenance are also offered. (Andarista, 2022) (Tamburaka, 2022) This is designed to enhance production pace, thereby reducing production duration, increasing production quantity, and ensuring production quality. (Sari et al, 2022)

The steps for implementing this activity are carried out in 4 stages, with each stage involving active participation from the implementing partners. The stages are explained in the following Table 1.

Table 1. Phases of Activity

No.	Phases of Implementing Solutions	Partner Participation
1.	Socialization Phases	
	Socialization: The Significance of Utilizing Technology to Facilitate the Production Process.	Formulating the characteristics of the Keranggan ecotourism village that can be implemented as a product in collaboration with the implementation team.
2.	Training Phases	
	Training on the Use and Maintenance of Cassava Slicing Machines.	Attend training sessions that are organized by groups, at the very least, within the scope of your work. Furthermore, the modules should be comprehended and practiced during the instruction.
3.	Implementing Technology Phases	
	Implementation of a cassava slicing equipment	The partner, accompanied by the implementation team, endeavors to operate all tools and machinery while ensuring that they are operationally suitable in accordance with the manual book and the modules that have been developed.
4.	Evaluation Phases	
	Evaluating the results of the activity implementation to ascertain the community's level of understanding, independence, and skills.	After completing the surveys and questions, partners engage in mentoring activities to accomplish the indicators of understanding and skill outcomes associated with the activities.

RESULTS AND DISCUSSION

This socialization and training session is designed for MSME entrepreneurs who are affiliated with the snack food and domestic industry sectors. This group, which is primarily constituted of mothers, was also introduced to the application of technological tools that can be used to increase production capacity as a result of the socialization and training that was arranged. Additionally, the implementation team presented an overview of the methods by which market expansion can be accomplished. The implementation team not only presented information on market expansion through online markets such as Tokopedia, but also elucidated how the development of distinctive products with appealing packaging can facilitate the attainment of sales objectives. Naturally, this is the phase during which production can be conducted at a rapid pace. The business actors from the group were provided with training on the use and maintenance of the cassava slicing equipment following the presentation of the material. This training is designed to ensure that business operators can increase production speed while still prioritizing safety and security. The implementation of this indoctrination and training is documented as follows.



Figure 3. The socialization of significance of utilizing technology to facilitate the production process



Figure 4. The training of the use and maintenance of cassava slicing machines

Participants are assigned tasks to demonstrate their proficiency in utilizing the tools, following the completion of socialization, training, and technology implementation. The sustainability of independent practices will further enhance the improvement of partners' skills, in addition to demonstrating the acceleration of production and production efficacy. In addition, the implementation team is dedicated to conducting continuous evaluations and offering assistance. The evaluation will assess whether the participants can operate the equipment accurately in accordance with the training that was provided. In order to establish a standard for the community's autonomy in the correct utilization of tools. The implementation team's function in providing assistance is essential during this period. The assistance in question is the willingness to offer the group assistance in achieving the outcomes of training and socialization during the production and marketing phases.



Figure 5. Implementation of a cassava slicing equipment



Figure 6. Evaluation phases on slicing cassava

The cassava slicer machine that is supplied is intended to resolve the production speed challenges encountered by nibble food entrepreneurs, including those who work with cassava. Furthermore, this machine can guarantee the quality of uniform cuts in accordance with the user's preferences. This device integrates the functions of an electric

motor and cutting blades. The blades are inserted into a circular disc that rotates in conjunction with the motor's rotor, as visible on the machine. This knife set is connected to a robust harness in the design depicted, which reduces the likelihood of breakage during use. The ultimate outcome of the cut can be independently ascertained. Users are only required to employ a greater amount of force in order to generate thinner cuts. In contrast, a more gentle press will result in thicker cuts. This pusher part, which is enclosed and specially designed, offers an adequate level of safety in addition to the flexibility in determining the incisions. To ensure that users are not concerned about the knife cutting their hands during the use of the instrument. The tool is also equipped with additional safety features, such as the on/off button, to guarantee that it can be halted promptly at any time. Certainly, this instills a sense of security in its utilization, rendering it appropriate for entrepreneurs, including mothers who are engaged in the home industry and snack food groups. Subsequently, the thickness/thinness of the cut is exclusively determined by the press, which is achieved through a stable rotation. To ensure that production pace is maintained and product capacity is increased.



Figure 7. Documentation of the participants

Table 2. The results of the participants' questionnaire evaluation of the training outcomes

No	Description	Strongly Agree	Agree	Disagree	Strongly Disagree	Min	Max	Mean	SD
1	The UMB Community Service Team's proficiency can resolve numerous community concerns.	0,750	0,250	0	0	3	4	3,750	0,034
2	The UMB Community Service Team's is employing a more efficient and straightforward methodology.	0,550	0,450	0	0	3	4	3,550	0,007
3	Training is highly beneficial in the advancement of community knowledge.	0,525	0,475	0	0	3	4	3,525	0,003
4	The materials offered are highly advantageous as educational resources for the community.	0,750	0,250	0	0	3	4	3,750	0,034

5	The training provided has the potential to augment the community's income.	0,750	0,250	0	0	3	4	3,750	0,034
6	The training offered has the potential to improve the community's understanding.	0,775	0,225	0	0	3	4	3,775	0,037
7	The training provided has the potential to enhance the quality of the products produced by the community.	0,575	0,425	0	0	3	4	3,575	0,010
8	The training offered motivates the community to continue engaging in these activities in the future.	0,600	0,400	0	0	3	4	3,600	0,013
9	The training provided has the potential to improve the caliber of the community.	0,525	0,475	0	0	3	4	3,525	0,003
10	The community benefits from the collaboration with the UMB Community Service Team's.	0,525	0,475	0	0	3	4	3,525	0,003
11	The cooperation objectives are achieved through the collaboration with the UMB Community Service Team's.	0,550	0,450	0	0	3	4	3,550	0,007
Average		0,625	0,375	0	0	3	4	3,652	0,017

Table 2 indicates that the average training participants strongly agree at 0.625 and agree at 0.375. The standard deviation is 0.029, and the mean value is 3.652. This suggests that the performance is satisfactory, as the standard deviation value is less than the average value.

CONCLUSION

The objective of this activity is to enhance the productivity of cassava chip production in terms of quality and efficiency by implementing the appropriate technology, specifically the cassava slicer machine. With this implementation, it is anticipated that the quantity will increase while the quality remains consistent. It appears that you did not provide any text for translation. Kindly provide the text you would like me to translate, and I will be delighted to assist you. Participants' responses to a survey indicated a high level of agreement (0.625) and agreement (0.375) regarding the effectiveness of the training. The results indicate a good performance, with a mean value of 3.652 and a standard deviation of 0.017.

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