



Business Development of Cumi-cumi Product Made from Sweet Potatoes in Karangbangun Village, Karanganyar Regency

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Abstract

The program of community service began with the socialization of applications on the village government and partners. Furthermore, it introduced machinery/technology to create technology on partners. The purpose of the community service activity was to provide the skills in the production of cumi-cumi products from sweet potato to members of Aisyiyah, PKK, and Karang Taruna in Karangbangun Village - Karanganyar District. The community service program began with a socialization program by the village government and partners. Furthermore, machines and technology were introduced to partners. The training of cumi-cumi product making and packaging was given to the partners, as well as production assistance, to ensure that partners were skilled at processing the products independently. The results showed that the partners were skilled at producing cumi-cumi products and using the machines. Two new UMKMs were formed in the community service program. Partners have been packing the products with labeled, marketed the products locally, as well as getting income from these sales.

1. Introduction

Karanganyar is one of the regencies in Central Java, with an area of 77,378.64 hectares. The administrative center of Karanganyar Regency is in Karanganyar city, about 14 km east of Surakarta City. On the north side of Karanganyar Regency is Sragen Regency, while on the south side there is Wonogiri Regency. In the east, it is bordered by Ngawi Regency and Magetan Regency, while in the west side there are three districts/cities, namely Boyolali Regency, Sukoharjo Regency and Surakarta City (BPSKaranganyar, 2017).

Matesih District is quite strategic because it is not only a tourist attraction but also has a significant transportation route. This district is the main route leading to Astana Giri Layu and Giri Bangun, which is a pilgrimage tour site to the tombs of the kings of Surakarta and the family of former President Suharto. This sub-district also has an inter-city sub-terminal

which is an inter-city and inter-provincial transit line. The smooth flow of transportation has supported the development of community economic activities in Matesih. Besides, the land in this sub-district is very fertile, which is also crossed by the Samin river, so that the superior business of the community in the District of Matesih is in agriculture (DISKOMINFO-Karanganyar, 2017).

Karangbangun Village, which is one of the villages in Matesih District, has potential agriculture that can be developed well. Karangbangun Village is known for its superior agricultural product potential, namely sweet potato (Karanganyar Regency Government, 2016), with a planting area of around 5 ha in 2015. Farmers in Karangbangun Village also utilize land in their nearby villages through the land lease system to plant sweet potatoes. Sweet potatoes that are cultivated are white sweet potato, yellow sweet potato, and purple sweet potato. It was reported that in 2013, Karanganyar District showed the highest level of sweet potato production and productivity in Central Java (BPS-JAWA-CENTRAL, 2016). This sweet potato farming business provides benefits for the community so that it can support the community's economy, especially in Karangbangun Village. However, the community's economic efforts have not been developed optimally because most sweet potatoes are sold as raw materials.

Sweet potatoes are potential and beneficial if developed properly. This is based on the components of nutrients found in sweet potatoes. In addition to the high fiber content, sweet potatoes are also composed of components that are good enough for health, especially for people with diabetes (Dutta, 2015). Sweet potatoes can be processed into various commercial food products, such as cumi-cumi products. It is a local cracker made of flour. This product is top-rated because the flavor is liked by the community so that the development of this product can provide added value to the economic development of the community.

Through several stages of discussions with partner members and the village government, it was discovered that the problem faced by partners of Aisyiyah, PKK, and Karang taruna in developing the business is that partners do not yet know about processing sweet potatoes into cumi-cumi products. Also, there are limited partners regarding the use of machinery/processing technology.

Efforts to overcome this problem have been carried out through the Community Partnership Program aimed at developing sweet potato-based food products such as cumi-cumi products. This effort is expected to open new business opportunities for the community/partners in Karangbangun Village. This is supported by the enthusiasm of the people in Karangbangun Village to be actively involved in this productive activity. This program can provide satisfying results with great support given by the community and the Karangbangun Village Government.

The purpose of this community service activity was to provide the skills of processing purple sweet potatoes into cumi-cumi products to partners of Aisyiyah, PKK and Karang Taruna in Karangbangun Village, Karanganyar Regency. Community service activities were

conducted through training in making sweet potato cumi-cumi products. In this program, a better manual packaging machine was introduced, and its use has never been reported for cumi-cumi products, with better quality, volume, and capacity.

2. Methods of Implementation

Community service activities were carried out in several stages, namely:

- a. Discussion and outreach with village government, community leaders, and partners. During the meeting, an activity plan was prepared during the program.
- b. Introduction of machines/equipments and their use.
- c. Training in making cumi-cumi from purple sweet potatoes. At this stage, the training participants were divided into three groups that had been distributed with product-making materials. Each group makes cumi-cumi products from purple sweet potatoes. The first stage is making the dough; then the dough is flattened using a roll press machine that has been given to partners. Next, the dough is molded, fried and packaged.
- d. Assistance for the establishment of UMKM. Support was carried out with partners in completing the requirements for submitting permission to establish UMKM at the local Village Head's Office.
- e. Packaging training. Partners are given packaging training by assisting with packaging design and sealer machines.
- f. Production assistance. Assistance is carried out to ensure that partners have carried out the production process following the training provided and produce good quality products.
- g. Evaluate the results of activities.

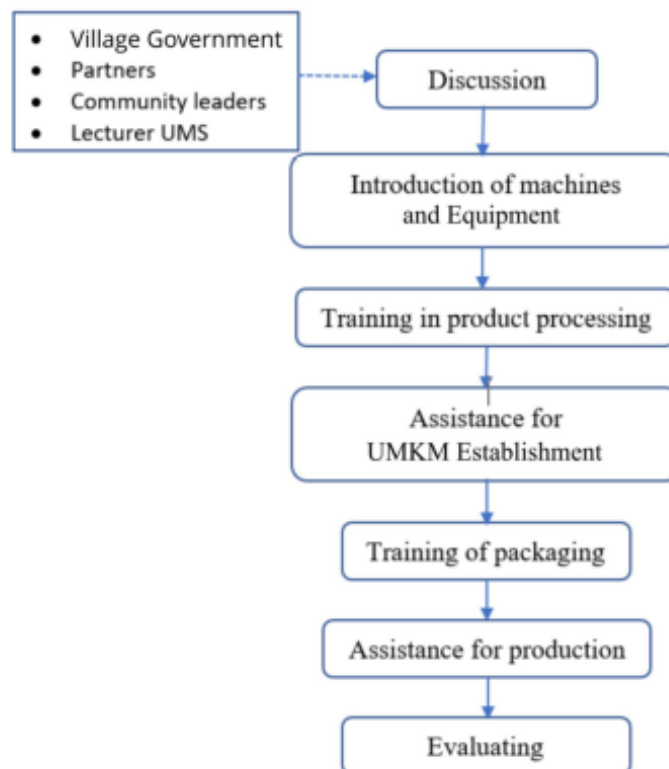


Figure 1. Flow diagram of community service in Karangbangun village

3. Results and Discussion

3.1. Cumi-cumi products making

Training on making cumi-cumi products for partners has been conducted. In preparation, firstly divided into three groups, then given an explanation of the reasons given training in making cumi-cumi products, how to process it, and how to use the technology, as well as safety and safety factors that need to be considered while using the machine.

The next step is to practice how to make cumi-cumi products. Partners directly practice cumi-cumi processing to understand and be skilled in processing. It appears that the trainees quickly understood and were skilled in processing cumi-cumi. Purple sweet potatoes are used in the training because the handling is more complicated than other sweet potatoes, especially the occurrence of color degradation. By using the assumption that if partners can make cumi-cumi products from purple sweet potatoes with good quality, then partners can easily make cumi-cumi products from white and yellow/orange sweet potatoes. Results and discussion contains the results of the implementation of community service activities along with the discussion. Write down the findings obtained from the results of the implementation that has been done and must be supported by adequate data. Explain well, the conditions before and after the implementation of community service activities. Mention the obstacles and obstacles that may be encountered



Machine introduction



Machine usage



Cumi-cumi molding



Frying

Figure 2. Training in making cumi-cumi products

The machine introduced to make cumi-cumi is a noodle-making machine. The introduction of machinery for processing cumi-cumi is done by introducing the parts of the tool, how to clean, and how to use it. The resource person first practiced using the machine; then, participants were asked to practice using the machine.

Furthermore, partners were given training in the form of cumi-cumi-making practices, which was guided by resource persons and assisted by two students. In the initial stage, a cumi-cumi mixture is made from purple yam. Making this dough even though it looks simply but it should be noted that the nature of the dough is strongly influenced by the amount of water. Rauf and Sarbini (2015) report that excessive or insufficient water use can reduce the quality of the dough.

The dough that has been formed is then flattened using a flaking machine (noodle making machine). The selection process was first exemplified by a resource person who was assisted by two students, then practiced by partners. The dough that has been flattened is then molded into cumi-cumi by cutting it into a uniform size. The next step is frying until it becomes a cumi-cumi.

Flattening and frying are critical factors in making cumi-cumi products. The flaking process affects the thickness of the product. Wani et al. (2017) report that the thickness of the molding dough affects the texture of the product. The thicker the dough molding, the higher the product hardness. The application of machinery/technology to print cumi-cumi dough in community service provides many advantages, not only is the cumicumi production process faster than manual roll press tools, but also offers better quality cumi-cumi, especially in setting the thickness and consistency of the dough, so it affects the crispness of the product. Another advantage is the volume of products produced more than twice that of manual tools.

Frying determines the quality of the product, especially the texture and color (Okay and Workneh, 2013). Frying of purple sweet potatoes needs to be careful and careful because the color of the purple base is difficult to distinguish from the color changes caused by frying. The use of high temperatures and free time causes changes in product flavor. Diamante et al. (2015) suggest that a vacuum frying can be used to avoid discoloration of purple sweet potato products. However, the use of this vacuum technique requires quite expensive investment equipment. Even though the training only uses atmospheric frying techniques, partners can quickly understand and recognize the optimum frying point.

Partners are very excited and enjoy the training process because previously, all the trainees did not know the machine to make cumi-cumi. All participants also did not yet know that purple sweet potatoes can be processed into cumi-cumi with attractive shapes, colors, and flavors. During the training process, each participant was allowed to operate the machine and practice directly in making cumi-cumi, so that it was inevitable that all participants could make sweet potato cumi-cumi and use molding machines appropriately and safely.

3.2. UMKM Formation

The sustainability of sweet potato processing business in Karangbangun Village, Karanganyar Regency by partners has been pursued through the assistance of the formation of UMKM. There are two UMKM that have been formed, namely UMKM BANGUN SEJAHTERA and UMKM NGUDI REJEKI.



UMKM Bangun Sejahtera



Discussion with village facilitators and Village planning staff

Figure 3. Establishment of UMKM and Synergy Efforts with Various Elements

Collaboration with village assistant staff and Village government planning staff is optimized so that the processing of sweet potatoes continues to be carried out to become the identity of Karangbangun Village. Karangbangun Village Government encourages all village communities to use this UMKM product in every activity and is even required for every Karangbangun Village government apparatus.

3.3. Product Packaging

After a skilled partner produces cumi-cumi and a new MSME has been formed, the next stage is packaging training. The packaging is a significant media, primarily to protect products from environmental influences and maintain product quality (Opara and Mditshwa, 2013). Packaging also serves as a promotional medium that can influence consumers' decisions to buy products (Zekiri, 2015).

The training is carried out by introducing the type of plastic that can be used, how to attach stickers, how to put the product in the packaging, and the technique of using a sealer. Through the training, it appears that the skilled partners carry out the packaging process to produce products with attractive packaging.



Packaging sealer usage



Products packaging

Cumi-cumi products

Figure 4. Training of product packaging

The provision of packaging training and packaging assistance increases the enthusiasm of partners for entrepreneurship. After training, partners immediately market the product.

3.4. Evaluation

Evaluation of activities was carried out at the stage before and after community service activities. Indicators of program success are presented in Table 1.

Table 1. Indicators of program success

No	Parameters	Achievements		Measurement
		Before	After	
1	Understanding of the various benefits of sweet potatoes	Do not understand	Understand	Question form
2	Introduction and skills to use cumi-cumi production machines	Do not understand	Understand and skilled	Practicing/training
3	Making cumi-cumi from sweet potatoes	Do not understand	Understand and skilled	Practicing/training
4	UMKM	Nothing	Two UMKM	SK UMKM
5	Product packaging	Do not understand	Understand and skilled	Practicing/training
6	Income from the products	Nothing	Yes	Interview

4. Conclusion

This community service activity concludes that partners are skilled at producing sweet potato cumi-cumi using machines/technology that is introduced, and already has two new UMKM. Cumi-cumi products developed by partners have been well packaged and sold. Partners also have income from the sale of sweet potato cumi-cumi product. Improving the quality of packaging and marketing expansion is still needed for the next stage of the program.

5. Acknowledgements

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