International Journal of Social Science and Human Research

ISSN (print): 2644-0679, ISSN (online): 2644-0695

Volume 08 Issue 09 September 2025

DOI: 10.47191/ijsshr/v8-i9-44, Impact factor- 8.007

Page No: 7083-7088

Enhancing Community Capacity Through Local Food Innovation: Training in Corn Noodle and Tofu Ice Cream Production for Economic Independence in Kalianyar Village

Sania Nurhafidah[1], Lydia Irma Suryani[2], Vriska Rifatul Aini[3], Bintang Hudasaksana[4], Shintia Wati Djini Mantros[5], Sitti Widatul Hasanah[6], Mohammad Aly Al Wafa[7], Zakaria Sandy Pamungkas[8], Firdha Yusmar[9], Mohammad Rofik Usman[10], Sri Wahyuni[11]

[1,2,3,4,5,6,7,8,9,11] University of Jember

[10] University of dr. Soebandi Jember

ABSTRACT: Kalianyar Village is one of the villages in Bondowoso Regency, located in the southern part, specifically in Tamanan Subdistrict. The village covers an area of 220.230 hectares, featuring beautiful natural landscapes and a strategic location. According to data from the Central Statistics Agency (BPS) in 2024, the majority of Kalianyar Village's population still relies on the agricultural sector for their livelihood. This indicates that most of the community works as farmers, with the main commodities being rice and corn. In addition to the agricultural sector, various industrial and SME businesses have developed in Kalianyar Village, one of which is tofu production, which is well-known among the community. However, the abundance of local potential has led to new challenges, namely the lack of optimal utilization of corn and tofu processing. Therefore, the author innovated corn noodles developed as a substitute for wheat flour, which is still largely imported, with the advantage of high nutritional content and safety for those with gluten allergies. Meanwhile, tofu ice cream is a healthy, nutritious, and appealing tofu-based product for consumers, while also strengthening the competitiveness of local SMEs. This research employed a descriptive quantitative method using a questionnaire distributed to the community, yielding quantitative results and descriptions aligned with the established rubric. The evaluation of training outcomes demonstrated improvements in skills, creativity, and economic independence among the community, leading to new business opportunities and enhanced family well-being. The community has become more independent in managing local food ingredients, resulting in positive market reception for corn noodles and tofu ice cream, which are now beginning to penetrate broader markets. Challenges such as controlling noodle shape and production equipment limitations are areas for improvement in future training. Overall, this local food innovation has a positive long-term impact on the environment and economy of Kalianyar Village.

KEYWORDS: SMEs, education, corn noodles, tofu ice cream, new business opportunities

I. INTRODUCTION

Kalianyar Village is one of the villages in Bondowoso Regency, located in the southern part, precisely in Tamanan District. This village has an area of 220.230 hectares with a beautiful natural landscape and a strategic position. Based on data from the Central Statistics Agency (BPS) in 2024, the majority of Kalianyar Village residents still depend on the agricultural sector for their livelihoods. This shows that most of the community works as farmers, with rice and corn as their main commodities. In addition to the agricultural sector, various industrial and MSME businesses have also developed in Kalianyar Village, one of which is the production of tofu, which is quite well known to the community. Corn and tofu are one of the staple foods in the village. Qun contains carbohydrates and tofu contains protein, which are beneficial for the body. In addition, corn is also an important raw material in the animal feed and processed food industries (Rohmaniya et al., 2023). Sustainable corn and tofu production not only supports the economic stability of farmers and local businesses, but also contributes to strengthening national food sovereignty through the provision of sufficient and quality food supplies (Nadhar er al., 2024).

Innovation is needed to add value to corn, one of which is through the production of com noodles as an alternative source of carbohydrates to rice and wheat, which also supports national food security. Corn noodles can be stored for a long time, are nutritious, suitable for people who are sensitive to wheat protein, and can increase economic value as corn production continues to grow (Eunike et al., 2021). Additionally, innovation has also been developed in tofu production, one example being the processing of tofu into healthy and nutritious tofu ice cream, which offers a new appeal to consumers and can strengthen the competitiveness of local MSMEs through more sustainable food products. This innovation not only reduces the limitations of rural communities'

skills in processing local food ingredients such as corn, but also reduces dependence on instant noodles, which are higli in sodium and various additives such as acidity regulators, stabilizers, antioxidants, and synthetic colors that can cause serious health problems (Efrizal, 2024). Through the production of corn noodles, the community can obtain healthy food alternatives with carbohydrates, fiber, protein, vitamins, minerals, and antioxidants such as ferulic acid, phytic acid, anthocyanins, and zeaxanthin, which are beneficial to the body's health (Lapui et al., 2021). By processing tofu into tofu ice cream, this product is expected to not only be nutritious and appealing, but also have a higher selling value and be able to open up new business opportunities for the people of Kalianyar Village.

Training in corn noodle and tofu ice cream production is a strategic step to increase community capacity, foster creativity, and open up new business opportunities. This training yogram is expected to focus not only on technical processing skills but also to equip the community with business management and marketing strategy knowledge. Thus, this activity can be a form of sustainable empowerment to achieve economic independence for the people of Kalianyar Village.

II. ISSUES

The Kalianyar Village community has not yet made optimal use of corn. Until now, corn has only been used as fuel or sold in its simple form without further processing. This condition has resulted in low added value from the corn harvest, limiting its contribution to improving the community's economy. In fact, corn has great potential to be processed into various high-value food products if supported by processing skills and innovation.

Tofu processing in Kalianyar Village is also still limited to fresh and fried forms with a short shelf life. This limitation prevents the economic value of tofu from developing to its full potential. In addition, the community still has limited skills in processing tofu derivative products and lacks knowledge about business management and marketing strategies. This has an impact on the low competitiveness of local MSMEs. Therefore, the above problems can be overcome with a training program on processing local food ingredients into corn noodles and tofu ice cream.

III. IMPLEMENTATION METHOD

This study used a descriptive quantitative method. This quantitative method is a collection technique by distributing questionnaires or surveys to the community, which will later produce quantitative values and descriptions according to the rubric created (Qomariah et al, 2024). This descriptive method can also illustrate the real conditions experienced by the community. This method describes systematically, factually, and accurately what happened in the field during community service (Nadeak and Sari., 2022).

This implementation was carried out in Kalianyar Village, Tamanan District, specifically in Kalianyar Tengah Village in August 2025. This implementation was carried out in 4 meetings in a month, namely in the first week there was a socialization about training, the second week was corn noodle training, the third week was tofu ice cream training, and the fourth week was product packaging training. The target of this community service was 20 women who were married or unmarried. The training conducted was corn noodle and tofu ice cream training.

IV. IMPLEMENTATION

BERSINAR Smart Corner in Kalianyar Village. The stages of implementation of these activities are as follows:

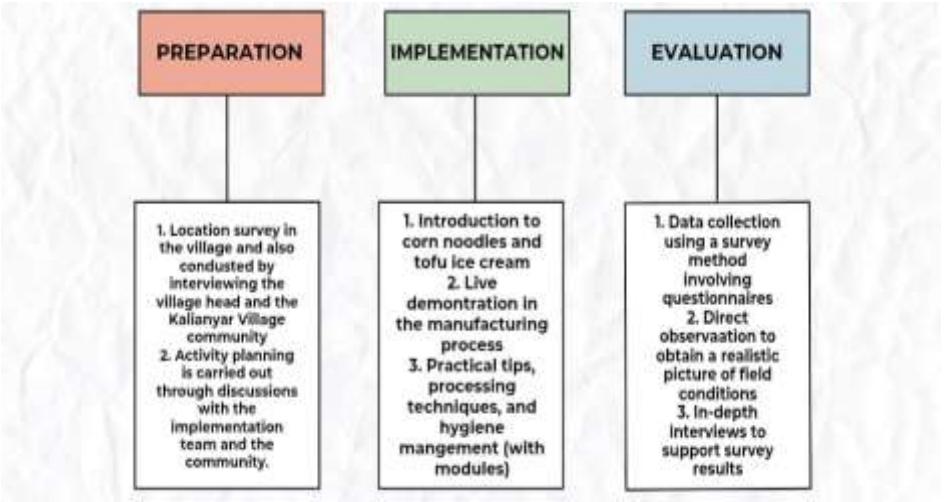

Figure 1. The stages of Implementation BERSINAR Smart Corner

1. Activity Preparation

The first stage involved a site survey in Kalianyar Village to directly observe the conditions of the village and conduct interviews with the village head and the community. The data showed that Kalianyar Village has extensive corn fields with abundant potential, as well as abundant tofu production. However, limited product processing resulted in low added value and narrow marketing. Interviews with the community revealed that corn noodle training had never been conducted, while tofu ice cream training had also never been held. Activity planning was carried out through discussions with the implementation team and the community to discuss local potential and existing problems in Kalianyar Village.

2. Activity Implementation

The second stage involved introducing and making corn noodles and tofu ice cream, explaining the objectives and benefits of making corn noodles as a nutritious alternative food source and tofu ice cream as an attractive and healthy tofu innovation. This was followed by a step-by-step demonstration of the process of making corn noodles and tofu ice cream to the mothers participating in the Family Corner, who were invited to watch closely each step of the process, from the preparation of ingredients and processing to the final stages of production. Additionally, practical tips and proper processing techniques were provided, along with guidelines on hygiene and quality standards to ensure the products produced are of good quality and market-ready. The activity also included the distribution of modules and teaching materials as references for participants to use for self-study after the training concluded.

3. Activity Evaluation

The evaluation stage in this study was carried out by collecting data within a certain period of time to ensure the consistency and relevance of the data obtained. Data collection used a survey method involving questionnaires as the main instrument to systematically gather information from respondents. In addition, direct observation was also carried out to obtain a real picture of the conditions in the field, as well as in-depth interviews with participants to obtain qualitative data to support the survey results. Documentation of activities was also carried out as a source of data to enrich the analysis.

V. RESULTS AND DISCUSSION

The training on corn noodles and tofu ice cream received positive responses from the village government, the community, and the participants of the "BERSINAR" Smart Corner. The results obtained at each stage of the activity are as follows:

1. Preparation Stage

In this initial stage, the activity began with conducting a direct location survey in Kalianyar Village. The aim was to obtain a real picture of the village conditions, especially those related to local food sources, namely corn. This survey was not only a visual observation, but also involved in-depth interviews with the village head and local community members to obtain complete information about the social, economic, and potential conditions in the village.

Figure 2. Discussion with the Village Head, village officials, and the Kalianyar Village community

After the field data was collected, a meeting or discussion was held with the team and relevant stakeholders to analyze the problems faced and identify existing opportunities. From this discussion, a targeted activity plan was designed, focusing primarily on utilizing the local potential of corn as a raw material for food innovation and tofu processing innovation. Thus, the training activities designed were corn noodle and tofu ice cream making, which were expected to improve the community's skills and become a solution for developing a local economy based on village resources.

2. Implementation Stage

In this second stage, two activities were carried out, namely corn noodle making in the first week and tofu ice cream making in the second week. This training took the form of education and socialization for the women of Kalianyar Village. The education covered various aspects related to local food innovations developed from corn and tofu so that the community would understand why these innovations are important and how their use can provide nutritional and economic benefits. This activity was followed by a live demonstration of the process of making noodles from corn and ice cream from tofu.

The use of corn to make corn noodles aims to optimize the use of corn as a local raw material that is abundant and economical, while reducing dependence on wheat flour, most of which still has to be imported. By processing corn into corn noodles, which have been mostly used as animal feed or traditional food ingredients, it can be utilized as a processed product with high added value and a longer shelf life. In addition, local corn flour is rich in nutrients, such as carbohydrates, essential fatty acids, dietary fiber, and provitamin A in the form of beta-carotene (Elvania et al., 2024). The fiber content in corn flour is essential for the body, thereby improving the quality of dried corn noodles. Beta-carotene as a source of plant-based vitamin A also allows the use of local corn flour as a natural coloring, replacing synthetic coloring with an attractive yellow color (Agustianingsih et al., 2024). This corn noodle product is also safe for people with gluten allergies because corn does not contain gluten, unlike noodles made from wheat flour. The natural yellow color and distinctive aroma of corn noodles add aesthetic value and flavor without the need for additional chemical coloring agents.

This demonstration was carried out in stages to provide a detailed understanding of the processing techniques, starting from the selection of raw materials, the corn grinding process, the mixing of ingredients, the noodle molding, to the packaging. The corn noodles are made by first grinding corn extract, then boiling it in water until it boils and straining it to obtain corn extract. This corn extract is then mixed with the main ingredients of the noodle dough, namely wheat flour, cornstarch, salt, and eggs. The dough is kneaded until it is smooth and not sticky. The prepared dough is then rolled out using a noodle rolling machine with a refining stage and a noodle forming stage. The refining stage is carried out in stages, starting from 1-8 rotations until the dough is smooth and ready to be molded into shapes. The final step, which is packaging the corn noodles in economical cups, is usually done to provide practical, cost-effective, and easily distributable packaging. Based on the search results, there are corn noodle products packaged in small and economical packaging, such as 60-gram packages in the form of cups or small bags that are ready to serve and easy to sell.

Figure 2. Corn noodle production process

Figure 3. Corn noodle product

Tofu is a food source rich in essential nutrients, making it an excellent ingredient for healthy foods, including as a base for ice cream for children. The main beneficial components of tofu include high-quality vegetable protein, calcium, iron, and various vitamins such as vitamin B complex. The protein in tofu aids in the growth and development of body tissue, while calcium is important for the formation of strong bones and teeth. In addition, tofu is low in saturated fat and cholesterol-free, making it safe and healthy for children to consume. The isoflavones in tofu also have antioxidant effects that are beneficial to overall health. When tofu is combined with other ingredients to make ice cream, such as low-fat milk and natural sweeteners, tofu ice cream becomes a delicious and nutritious healthy food option for children. Tofu ice cream provides nutritional intake that supports children's growth while being an attractive and enjoyable snack. With its soft texture and varied flavors, tofu ice cream is a suitable healthy snack alternative to conventional ice cream, which is high in sugar and saturated fat. This product can also help children get used to consuming nutritious foods from an early age.

The second training session on making tofu ice cream began with boiling and mixing flavors. The tofu used must first be boiled to remove any unpleasant taste and make the mixture softer. The boiled tofu is then put in a blender with 12 tablespoons of full cream milk, about 8 tablespoons of sugar, vanilla for aroma, and about a teaspoon of SP as a leavening agent. Flavorings are also added to give the ice cream different flavors, such as vanilla, chocolate, or fruit. The ice cream mixture, which has been blended until smooth, is then placed in the freezer to freeze into ice cream that is ready to serve.

Figure 4. Process of making Tofu Ice Cream Figure 5. Result of Tofu Ice Cream

The addition of labels on corn noodle cup packaging and tofu ice cream packaging plays a very important role as a medium of communication between producers and consumers. These labels serve to provide complete and clear information about the product, such as the product name, net weight, main ingredients, expiration date, storage instructions, and serving suggestions. In addition, labels usually contain information about the manufacturer or distributor, production batch number, and certifications such as halal labels, if any. With informative labels, consumers can easily recognize products and feel more confident about their quality and safety (Arseto et al., 2024). Labels on cup packaging also enhance the visual appeal of products through attractive designs and colors, making products more professional and competitive in the market. Labels can be applied by affixing stickers or printing directly on the surface of the cup using appropriate printing technology. This practical approach aims to ensure that participants not only receive theory but also gain direct experience from this training.

3. Evaluation Stage

Evaluation is an important stage to measure the extent to which the training and socialization objectives have been achieved. Descriptive quantitative research in Kalianyar Village shows that training in corn noodle and tofu ice cream making has had a significant positive impact on the local community. This training not only improved the skills and creativity of the residents, but also opened up new business opportunities that boosted family income and overall economic welfare. The people of Kalianyar Village became more independent in managing local food ingredients such as corn and tofu, processing them into value-added products such as corn noodles and tofu ice cream. These products were well received in the local market and began to penetrate wider markets. The positive impacts include increased household income, local economic development, and the creation of new jobs. In addition to economic benefits, this training also increases community knowledge and awareness of the importance of diversifying food based on healthy and nutritious local ingredients. This step is an effective strategy to strengthen food security and family health in Kalianyar Village.

The education and training activities, especially for the participating mothers, have had a tangible positive effect. Participants gained a deep understanding of corn noodles and tofu ice cream, including their introduction and manufacturing processes. Evaluations show that the majority of mothers have mastered the manufacturing procedures and recognize the benefits of these products for the community. Overall, this activity has had a positive long-term impact on both the environment and the economy. However, several challenges remain, such as the difficulty of controlling the molding equipment to produce noodles with a more uniform shape, as well as limited access to the equipment needed for large-scale production. These challenges will be the focus of improvement and further training development.

VI. CONCLUSION

The training on corn noodle and tofu ice cream processing aimed to increase the community's capacity to process underutilized food ingredients. The training on corn noodle and tofu ice cream processing in Kalianyar Village has succeeded in increasing the community's capacity to utilize abundant local food ingredients, especially corn and tofu. The innovation of corn noodles as an alternative source of nutritious carbohydrates that are safe for people with gluten allergies, as well as tofu ice cream as a healthy and attractive tofu-based processed product, has opened up new business opportunities and increased the community's economic independence. Kalianyar Village has a very high potential for corn as a staple food, which has been used as a focus for increasing MSMEs and economic independence through the processing of corn noodles. Not only that, this second training also included training in tofu ice cream processing. The training results showed an increase in skills, creativity, and knowledge of business management and marketing strategies, which had a positive impact on increasing family income and welfare. Despite challenges such as controlling the shape of the noodles and limited production equipment, this activity had a positive long-term

impact on the development of MSMEs, food security, and the health of the Kalianyar Village community. This training is a strategic step in promoting community empowerment based on sustainable local potential. It also fosters creativity and entrepreneurial spirit among the community, especially the participating women, enabling them to manage local products with greater confidence and market them more widely. With ongoing training support and promotion.

REFERENCES

1) Arseto, D. D., Mardayanti, I., Haratikka, H., Khairunnizar, M. A., Arfah, Y., Syahputra, A., Gnawan, D., & Sarwoto. 2024. Assistance in packaging and branding for brown sugar MSMEs in Paya Lombang Village. *Journal of Community Service*. 5 (1): 288-294.
2) Agustianingsih, V., Holinesti, R., Faridah, A., & Mustika, S. 2024 . The influence of corn flour substitution on the quality of dry noodles. *Journal of Culinary Education and Technology*, 5(1):55-63.
3) Efrizal, W. 2020. Instant noodle consumption behavior among adolescents. *Citra Delima Scientific Journal of Citra Internasional Institute*, 4(2): 94–100.
4) Elvania, N. C., C. R. I. Agustin., A. D. Pratiwi., A. S. M. T. A. Setiawan., A. A. G. Atmaji., Suhartono., and M. S. Udin. (2024). Socialization of Organic Fertilizer Production as an Effort to Reduce Corn Cob Waste. *Surya Abdimas*. 8 (2). 165-170.
5) Eunike, B., Mareta, D., Ivana, I., Novi, A., Caroline, C. H., Hendrata, H., Gunadi, O., Adhika, J. B.P., Hery, E. P. N., Farras, M. O., & Ernaningsih, Z. 2021. *Atma Inovasi Journal*. 1(3): 234-240.
6) Lapui, A. R., Nopriani, U., & Mongi, H. (2021). Analysis of the nutritional content of corn flour (Zea mays Lam) from Uedele Village, Tojo District, Tojo Una-una Regency for animal feed. *Agropet*, 18(2): 42-46.
7) Nadeak, F. J & Sari, D. M. 2022. Survey of student interest in participating in physical education. *Journal of Community Service*. 2(2): 90-101.
8) Nadhar, M., Hermawaty, R. K., Ernawati, E., & Elviana, E. 2024. The effect of production costs and selling prices on corn farmers' income. *Jppi (Indonesian Journal of Educational Research)*, 10(4): 206-219.
9) Qomariah, L., Rusdiana, D. U., Hasanah, S. W., Athallah, A. R. A., Putra, B. P., Sumiati, I. D., ... & Wahyuni, S. (2024). Evaluating the Impact of a Women's Empowerment Program on Environmental Sustainability through Eco-Friendly Fertilizer Production. *Science Education and Application Journal*, 6(2), 165-171.
10) Qomaruddin, Q., & Sa'diyah, H. 2024. Theoretical study of data analysis techniques in qualitative research: Perspectives of Spradley, Miles, and Huberman. *Journal of Management, Accounting, and Administration*, 1(2): 77-84.
11) Rohmaniya, F., R. Jumadi., and E. S. Redjeki. (2023). Growth Response and Yield of Sweet Corn (Zea mays saccharata Sturt) to the Application of Manure and NPK Fertilizer. *Jurnal Tropicorps*. 6(1). 37-51.
12) Saputra, R. 2025. Corn processing as an effort to increase community income through crackers as a creative idea in Tangkulowi Village, Kulawi District. *Sambulu Gana: Journal of Community Service*, 4(2): 39-43.
13) Viza, R. Y., & Ratih, A. 2024. Training in making healthy vegetable noodles as a business opportunity for students. *Journal of Human and Education (JAHE)*, 4(1): 568-575.