



TRAINING ON PRODUCING LOW-CALORIE TOFU-BASED SOUVENIRS IN KAMPUNG EMAS SEYEGAN, SUPPORTED BY UNY

PELATIHAN PRODUKSI OLEH-OLEH BERBAHAN DASAR TAHU RENDAH KALORI DI KAMPUNG EMAS SEYEGAN BINAAN UNY

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Abstract

The Community Service Program (PKM) in Kampung Emas Seyegan was implemented to address local economic stagnation caused by limited product innovation, weak business management, and low digital marketing literacy among the Krapyak tofu industry center. Through a participatory approach and an applied training model, this program focuses on improving production and marketing capacities by developing healthy culinary products made from low-calorie tofu. The training included the processing of two flagship products—Tofu Rolade and Tofu Dimsum—with the application of food safety standards, flavor diversification, and packaging innovation. In addition, participants received assistance in business management, cost of goods sold (COGS) calculations, branding, as well as digital marketing using social media and e-commerce platforms. The results show a significant increase in production skills, understanding of the value chain, and the ability to downstream local souvenir products. The program successfully fostered an innovative entrepreneurial orientation, strengthened local culinary identity, and has the potential to increase household income and the economic sustainability of the community.

Keywords: community empowerment, product innovation, low-calorie tofu, MSMEs, food downstreaming, Kampung Emas Seyegan

Abstrak

Program Pengabdian kepada Masyarakat (PKM) di Kampung Emas Seyegan dilaksanakan untuk mengatasi stagnasi ekonomi lokal yang disebabkan oleh minimnya inovasi produk, lemahnya manajemen usaha, serta rendahnya literasi pemasaran digital pada sentra industri tahu Krapyak. Melalui pendekatan partisipatif dan model pelatihan terapan, kegiatan ini berfokus pada peningkatan kapasitas produksi dan pemasaran melalui pengembangan produk



kuliner sehat berbahan dasar tahu rendah kalori. Pelatihan mencakup pengolahan dua produk unggulan Rolade Tahu dan Dimsum Tahu dengan penerapan standar keamanan pangan, diversifikasi rasa, dan inovasi kemasan. Selain itu, peserta mendapatkan pendampingan manajemen usaha, perhitungan HPP, branding, serta pemasaran digital berbasis media sosial dan e-commerce. Hasil kegiatan menunjukkan peningkatan signifikan dalam keterampilan produksi, pemahaman rantai nilai (value chain), dan kemampuan hilirisasi produk oleh-oleh khas desa. Program ini berhasil menumbuhkan orientasi wirausaha inovatif, memperkuat identitas kuliner lokal, serta berpotensi meningkatkan pendapatan keluarga dan keberlanjutan ekonomi komunitas.

Kata Kunci: pemberdayaan masyarakat, inovasi produk, tahu rendah kalori, UMKM, hilirisasi pangan, Kampung Emas Seyegan

1. INTRODUCTION

Kampung Emas Seyegan is one of the community development villages fostered by Yogyakarta State University (UNY), located in Krapyak IX Hamlet, Margoagung Village, Seyegan District, Sleman Regency, Special Region of Yogyakarta. This village serves as a model of community empowerment based on local potential, built through a family-centered approach as an integrated socio-economic system. This approach is rooted in the concept that the family is a social unit whose members interact and depend on one another; changes in one family member affect the well-being of the entire family structure. Therefore, interventions aimed at improving individual economic capacity are expected to have a collective impact on strengthening the community's economic resilience.

Geographically, Kampung Emas is located approximately 14 km from the provincial government center of the Special Region of Yogyakarta. Its community is characterized by a strong agrarian culture, local traditions, and social solidarity. The village has implemented nine flagship programs known as the "Nine Blessings Programs," which include: Education Blessing, Fishery Blessing, Poultry Blessing, Tofu Snack Blessing, Vegetable and Fruit Harvest Blessing, Art Blessing, Sports Blessing, Culinary Blessing, and Tofu Blessing. These programs represent the concrete collaboration between universities, the village government, and the community in building sustainable welfare.

Among the nine programs, the culinary sector and tofu industry represent the most economically influential sectors for the community. The Krapyak tofu industry center, which has been operating for generations, currently processes an average of 2.5 tons of soybeans per day and involves around 75 producers with 150 workers from three hamlets. The signature yellow tofu of Krapyak is recognized as a local identity and serves as the primary source of household income. However, many business actors continue to face structural issues such as limited product innovation, the absence of business bookkeeping, conventional marketing practices, and low business literacy.

From a socio-economic perspective, the partners' problems are rooted in the scarcity principle described by Samuelson and Nordhaus (2009), which refers to a condition where societal needs are unlimited while resources and production knowledge remain limited. At the micro level, business actors in Kampung Emas face issues related to market price mechanisms,



product distribution, and production cost efficiency. At the macro level, low income, lack of business innovation, and stagnant productivity hinder welfare improvement.

Ravallion (2016) asserts that communities that fail to upgrade their productive capabilities become trapped in a low equilibrium trap, where individuals continue to work hard without experiencing welfare improvement due to the absence of economic value-added. This phenomenon is evident in the Krapyak tofu center, where economic activity remains stuck at the primary production stage without downstream processing.

From the perspective of value chain development [3], product competitiveness is influenced not only by the quality of raw materials but also by innovation throughout the value chain—ranging from pre-production, production, post-production, to distribution and marketing. In Kampung Emas, the tofu value chain can be expanded through product innovations such as low-calorie tofu, healthy soybean-based snacks, and premium packaging suited for modern markets. Additionally, integration with culinary tourism and MSME education sectors can broaden market opportunities and strengthen the village's cultural-economic identity.

Based on the analysis, four priority problems can be identified:

1. Production Sector: limited innovation in processed tofu products with economic value.
2. Business Management Sector: absence of financial recordkeeping, cost of goods sold (COGS) calculation, and strong business institutionalization.
3. Marketing Sector: reliance on traditional networks and underutilization of digital marketing.
4. Business Literacy and Entrepreneurship Sector: lack of understanding of modern business development strategies such as branding, licensing, and market analysis.

These issues are interconnected and contribute to household economic stagnation. Therefore, the community service program (PKM) intervention is directed toward addressing two major sectors—production and business management—marketing (upstream–downstream)—using an approach based on healthy culinary innovation and strengthening local entrepreneurial capacity.

This empowerment effort aligns with Family System Theory [4], which positions the family as a dynamic social system; strengthening the economic ability of one family member can enhance the economic resilience of other families within the community. Thus, intervention programs focused on tofu and culinary business actors in Kampung Emas are expected to create a domino effect on improving collective welfare in Seyegan.

In addition to the economic approach, the principles of Community-Based Economic Empowerment [5] also underpin the program. Community empowerment not only includes technical training but also psychological strengthening (self-confidence and entrepreneurial motivation), organizational capacity (business group management), and structural capacity (legal access and market access). This approach ensures that the community becomes not merely beneficiaries but active agents in the process of developing the local economy.

Program PKM Urgency



The urgency of this program is based on the objective condition that Kampung Emas already has adequate physical and social resources to develop, but lacks an integrated innovation and management support system. Without sustainable scientific intervention, the village risks experiencing economic stagnation, where its great potential cannot be transformed into increased community income. Moreover, most business actors serve as the backbone of their families, making household economic sustainability highly dependent on the success of this sector.

Through training on the production of low-calorie tofu-based souvenirs and optimization of tofu waste into innovative products, this PKM program is expected to create new economic value and strengthen family economic resilience. Strategies to enhance management capacity and digital marketing will expand market reach and improve the competitiveness of local products.

Furthermore, this program supports the implementation of the Merdeka Belajar–Kampus Merdeka (MBKM) program through real project-based learning (real problem solving). Students and lecturers can apply their knowledge directly to solve socio-economic problems, while the community benefits from practical innovations.

Thus, the PKM implementation in Kampung Emas Seyegan not only contributes to improving the economic welfare of families and the community but also serves as a social laboratory for the university to test and develop knowledge-based empowerment concepts. The collaborative approach between academia and the community makes this program a replicable model of sustainable and results-oriented community service aligned with national development agendas focused on the creative economy and local wisdom.

2. METHOD

The implementation method in the Training Program for Producing Low-Calorie Tofu-Based Souvenirs in Kampung Emas Seyegan was designed to address the priority problems in two main areas: production and marketing. The program integrates a community-based participatory approach with an applied training model, in which the community is actively involved in every stage of activity—from planning, implementation, to evaluation. This approach is expected to create sustainability in developing the local economy based on traditional food potential.

The training is carried out comprehensively, not only to improve technical production skills but also to strengthen business management and digital marketing strategies in line with the demands of the modern culinary market.

1. Implementation Methods in the Production Sector

a. Enhancing Skills in Developing Low-Calorie Tofu-Based Souvenir Products

The main issue in production faced by the Kampung Emas community is the limited ability to process tofu into innovative derivative products that have high selling value while remaining low in calories. To address this problem, several training methods are applied:

1) Training on Functional Food Ingredients

Participants receive material on the concept of functional food—foods that not only serve as sources of basic nutrients (carbohydrates, proteins, fats) but also provide additional health benefits such as antioxidants, probiotics, vitamins, and dietary fiber. This training aims to improve participants' understanding so they can combine local ingredients with high-health-value functional ingredients.



2) Training on Tofu-Based Souvenir Production Techniques

The training focuses on processing tofu so that it remains nutritious, low in calories, and has a longer shelf life. Innovative products used as practice examples include low-fat tofu dim sum and high-fiber tofu roulade. The training uses simple household equipment such as steamers so that the techniques can be easily replicated by MSME actors.

3) Application of Hygiene Standards, Food Safety, and Halal Certification

Participants are given training on Good Manufacturing Practices (GMP), personal hygiene, and safe tofu storage procedures. In addition, they are introduced to the principles of the Halal Assurance System to ensure stronger market competitiveness and consumer trust.

4) Product Diversification and Flavor Innovation

Participants are guided to understand market trends in modern healthy food, unique selling points (USPs), and market opportunities. Diversification is carried out by creating variations in flavor, shape, and packaging techniques to appeal to different consumer segments.

5) Attractive and Eco-Friendly Packaging Innovation

Packaging training includes designing informative labels (composition, calories, expiration date, nutritional values), using vacuum packaging to extend product shelf life, and introducing eco-friendly packaging materials to support sustainability principles.

2. Implementation Methods in the Marketing Sector

The main issue in the marketing sector is the suboptimal use of digital strategies and limited market access. Therefore, the training is directed at two key aspects:

a. Digital Marketing Training through Social Media

Participants learn how to optimize Instagram, Facebook, and WhatsApp Business for product promotion. The training covers creating attractive visual content, writing persuasive captions, and using effective hashtags to increase audience reach.

b. Utilizing E-Commerce for Online Sales

Participants are taught how to register and manage online stores on platforms such as Shopee, Tokopedia, and GoFood. The material includes digital promotion strategies such as flash sales, vouchers, and paid advertising to boost sales.

With this training, participants are expected to be able to conduct branding, expand market reach, and increase the competitiveness of low-calorie tofu products as signature souvenirs of Kampung Emas.

3. Partner Participation in Program Implementation

Active participation of the community as partners is the core principle of this program. Their involvement is carried out in three main stages:

a. Planning Stage

Partners are involved through a Needs Assessment to identify local needs and potentials. The assessment shows that tofu products sold in the village are mostly raw materials with low selling value. Therefore, the training is focused on value-added improvement through product innovation and packaging.

b. Implementation Stage

The community and MSME actors participate directly in production training, tofu processing practice, and digital marketing simulations. Students involved in the program serve as technical assistants, activity documenters, and practice facilitators.

c. Evaluation and Sustainability Stage



After the training, monitoring is conducted to assess the business development of the partners, including sales improvement and product diversification. Evaluation results are used to improve future training and replicate the program in other areas.

4. Approaches and Expected Impacts

The participatory and transformative approach in this program is expected not only to improve participants' technical skills but also to reshape their entrepreneurial mindset toward innovation and sustainability. The expected long-term impacts include:

- The creation of signature low-calorie tofu-based souvenir products from Kampung Emas.
- Increased MSME income through local food product downstreaming.
- Growth of new entrepreneurs in the healthy culinary sector.
- Strengthened branding of Kampung Emas as an educational culinary tourism destination.

3. RESULTS AND DISCUSSION

The implementation of the “Low-Calorie Tofu-Based Souvenir Production Training in Kampung Emas Seyegan” demonstrates that an empowerment approach rooted in local potential can effectively improve production skills, healthy culinary innovations, and business management among the residents of Krapyak IX Hamlet. The integration of innovative products—particularly Tofu Rolade and Tofu Dimsum—serves as one of the indicators of success in the downstreaming of Krapyak Tofu as a superior local commodity.

1. Improvement of Production Skills: Innovation of Tofu Rolade and Tofu Dimsum

The training resulted in the development of two main low-calorie souvenir products that can be promoted as Kampung Emas signature items, namely Tofu Rolade and Tofu Dimsum. These innovations address the need for household economic diversification while creating added value compared to raw tofu, which has traditionally been the main source of income.

a. Formulation, Processing Steps, and Product Potential of Tofu Rolade

Tofu Rolade is prepared by combining white tofu, minced meat, carrots, scallions, and low-oil seasoning spices to produce a high-protein, low-calorie product that is suitable as a modern souvenir. The formula used in the training is as follows:

Composition of Tofu Rolade – Yield: 3 rolls @ 250 g, processing time: ± 60 minutes

Table 1. Composition of the main ingredients for rolade mixture

NO	INGREDIENT	QUANTITY	DESCRIPTION
1	Low-moisture White Tofu	250 g	Base ingredient, provides a soft texture and lower calorie content.
2	Minced Meat	200 g	Adds protein, savory flavor, and structure to the mixture.
3	Bread Crumbs	50 g	Absorbs moisture, strengthens the mixture.
4	Egg	2 pieces	Binder for the mixture to prevent it from crumbling easily.
5	Scallions (Spring Onion)	50 g	Adds aroma and freshness.
6	Carrot	100 g	Adds color, nutrients, and texture.
7	All-purpose Seasoned Flour	100 g	Adds flavor, helps in forming a denser texture.

Table 2. Composition of Ground Spices



NO	INGREDIENT	QUANTITY	DESCRIPTION
1	Shallots (Bawang Merah)	6 cloves	Provides a distinctive sweet and savory aroma.
2	Garlic	4 cloves	Adds savory flavor and a strong aroma.
3	Pepper	\$2/3\$ tsp	Warm spicy seasoning.
4	Nutmeg	\$1/2\$ piece	Gives a distinctive aroma to processed meat.

Table 3. Composition of Galantine Sauce

NO	INGREDIENT	QUANTITY	DESCRIPTION
1	Onion	1 piece	Base aroma of the sauce, sweet and savory flavor.
2	Margarine	50 g	For sautéing and providing a creamy taste.
3	Water	200 ml	Solvent and forms the sauce liquid.
4	Coarse Black Pepper	\$1/4\$ tsp	Gives a warm spicy taste.
5	Cornstarch (dissolved)	10 g	Sauce thickener.
6	Tomato Sauce	50 g	Gives a sweet and sour taste.
7	Soy Sauce (Kecap Asin)	5 g	Adds flavor depth (umami).
8	Worcestershire Sauce (Kecap Inggris)	10 g	Gives the distinctive smoky aroma of galantine sauce.
9	Beef Broth Powder	3 g	Flavor enhancer (savory).
10	Salt	3 g	Seasoning.
11	Granulated Sugar	10 g	Flavor balancer.
12	Grated Nutmeg	3 g	Distinctive aroma and flavor of Western dishes.

Table 4. Composition of Side Dish Ingredients

NO	INGREDIENT	QUANTITY	DESCRIPTION
1	Green Beans (Buncis)	100 g	Fiber supplement, crunchy texture.
2	Sliced Carrot	100 g	Color and nutrient supplement.
3	Potato Wedges	150 g	Carbohydrate source, plating supplement.
4	Boiled Egg	5 pieces	Filling or topping (optional, depending on serving style).

Table 5. Composition of Rolade Skin

NO	INGREDIENT	QUANTITY	DESCRIPTION
1	Wheat Flour	50 g	Base for the skin mixture.
2	Egg	1 piece	Binder and softener for the skin.
3	Water	100 ml	Mixture solvent.
4	Cooking Oil	10 g	Makes the skin flexible and less prone to tearing.

Table 6. Composition of Other Ingredients



NO	INGREDIENT	QUANTITY	DESCRIPTION
1	Nori	3 sheets	Inner layer, gives a distinctive aroma and strengthens the structure of the roll.
2	Banana Leaf	Sufficient amount	Wrapper during steaming.
3	Cooking Oil	250 ml	Frying the <i>rolade</i> until golden brown.

Production Process

The process of making Tofu Rolade begins with preparing the filling ingredients. First, the white tofu is mashed until smooth and then squeezed to remove excess water so that the texture becomes firmer. The tofu is then mixed with minced meat, breadcrumbs, eggs, scallions, carrots, and all-purpose seasoning flour as a binder. Next, a fine spice mixture is prepared from shallots, garlic, pepper, and nutmeg, which is then added to the mixture and stirred until homogeneous.

In the next stage, the rolade wrapper is prepared by making a batter from wheat flour, eggs, water, and oil, which is then cooked on a non-stick pan to form thin and flexible crepes. Each crepe is then layered with nori sheets, filled with the rolade mixture, and rolled tightly before being wrapped with banana leaves. The formed rolls are steamed for 25–30 minutes until cooked and firm, then cooled before being sliced or fried to achieve a golden-brown color and a more appealing aroma.

While the rolade is cooling, galantin sauce is prepared by sautéing onions in margarine until fragrant and wilted, then adding water and a mixture of seasonings including tomato sauce, soy sauce, Worcestershire sauce, black pepper, beef broth powder, salt, sugar, and nutmeg. The sauce is cooked until boiling, then thickened with a cornstarch slurry to achieve a smooth and glossy consistency. The side dishes—green beans, carrots, potatoes, and eggs—are boiled until cooked and drained.

The final stage is serving, which involves slicing the rolade, arranging it on a plate along with the vegetable sides and eggs, then pouring the hot galantin sauce over it to create a flavorful, complete dish ready to be enjoyed.

This steaming method—an alternative to frying—can reduce the total fat content in soybean-based products by approximately 28–35% compared to frying methods [9]. Tofu Rolade has strong potential as a modern souvenir because of its soft texture and wide consumer appeal. It can be stored as frozen food for 2–3 weeks. It also has a higher selling value (IDR 25,000–35,000 per roll) and can potentially become the signature product of Kampung Emas.

b. Tofu Dimsum: A Low-Calorie, Market-Friendly Product

Tofu Dimsum was developed to meet the community's demand for healthier contemporary foods that are high in protein and low in fat.

Tentu, ini terjemahan tabel-tabel tersebut ke dalam bahasa Inggris:

Table 1. Composition of Main Ingredients

NO	INGREDIENT	QUANTITY	DESCRIPTION
1	White Tofu	500 g	Main ingredient, provides a soft texture and volume.
2	Ground Shrimp	250 g	Protein source, provides the distinctive savory flavor of dim sum.
3	Grated Chayote (squeezed)	100 g	Adds softness and moisture, prevents drying.



4	Sago/Tapioca Flour	50 g	Binder, provides elasticity.
5	Finely Ground Garlic	5 cloves	Adds aroma and flavor.
6	Pepper	5 g	Basic seasoning, enhances the taste.
7	Thinly Sliced Scallions (Spring Onion)	50 g	Fresh aroma and distinctive dim sum character.
8	Oyster Sauce	50 g	Provides savory, umami flavor.
9	Salt	5 g	Flavor balancer.
10	Fish Sauce	5 g	Adds savoriness and aroma.
11	Sesame Oil	10 g	Distinctive oriental aroma.
12	Egg	2 pieces	Binder to hold the mixture together.

Table 2. Composition of Other Ingredients

NO	INGREDIENT	QUANTITY	DESCRIPTION
1	Dim Sum Skin	Sufficient amount	Wrapper for the mixture.

Table 3. Composition of Topping Ingredients

NO	INGREDIENT	QUANTITY	DESCRIPTION
1	Grated Carrot	1 piece	Topping for color and aesthetics.

Production Process

The process of making tofu dimsum begins by preparing all the required ingredients. The tofu is mashed until smooth and then mixed with ground shrimp, grated chayote (which has been squeezed to remove excess water), and sago flour as a binding agent. Add the minced garlic, pepper, salt, fish sauce, oyster sauce, sesame oil, and two eggs to provide a savory flavor and a softer texture. Mix everything until it forms a homogeneous batter.

Once the mixture is ready, take a sheet of dimsum wrapper, fill it with one spoonful of the mixture, shape it into a cone, and top it with grated carrot to create a more attractive appearance. Continue the process until all the mixture is wrapped. Steam the dimsum in a preheated steamer for 15–20 minutes until cooked and the wrapper becomes translucent. After steaming, the tofu dimsum is ready to be served warm with complementary sauces as desired. Method: steam for $\pm 12\text{--}15$ minutes at a temperature of $90\text{--}100^\circ\text{C}$. Chayote is selected because it is low in calories and functions as a healthy filler—evidence shows that chayote increases dietary fiber content and reduces energy density in processed foods [10].

Product advantages: soft and juicy texture, oil-free, suitable for diet-conscious consumers, frozen shelf life up to 1 month, and ideal for online food-delivery marketing.

2. Strengthening Management and Product Downstreaming

The training on processing Tofu Rolade and Tofu Dimsum not only focused on the practical aspects of product preparation but also provided participants with an in-depth understanding of the concept of tofu-based food downstreaming. Participants were trained to calculate simple Cost of Goods Sold (COGS), create vacuum packaging, and develop basic nutrition labels such as estimated calories, composition, and expiration dates. These skills serve as an essential foundation for MSME actors to enhance product value.

This training also strengthened the managerial capacity of local entrepreneurs. This aligns with the findings of Sari & Handayani (2022), who emphasized that food-based MSMEs require product and packaging innovation to enter digital markets and modern retail channels.



The results of the program show that partner communities, particularly tofu producers, gained new insights into product diversification and techniques for processing low-calorie tofu into high-value products such as tofu dimsum, tofu rolade, and plant-based nuggets. These innovations contribute to an increasing number of unique souvenir products that can be marketed as the culinary identity of Kampung Emas Seyegan.

In addition to production skills, participants were also provided with important knowledge related to food safety and halal certification as essential standards for processed food products. This education is highly relevant considering many MSME actors still lack understanding of the importance of implementing food safety principles during production. Rahmawati and Sari (2021) affirmed that hygiene standards and halal assurance not only increase consumer trust but also expand access to the local product market.



Figure 1. Tofu-based Product Processing

Thus, this training successfully provided comprehensive reinforcement ranging from product innovation and business management improvement to the understanding of food safety standards, thereby supporting the downstreaming of tofu-processed products and strengthening the competitiveness of MSMEs in Kampung Emas Seyegan.

3. Implementation of Food Safety and Halal Certification

In this training, participants gained important knowledge regarding the application of food safety principles, including the hygiene of production spaces, control of cross-contamination, and proper techniques for storing food ingredients at low temperatures. Participants were also introduced to the fundamentals of the Halal Assurance System as part of efforts to ensure the feasibility and safety of processed food products. This increased understanding is highly relevant because the readiness of MSMEs to implement food safety standards has been proven to enhance consumer trust. This aligns with the findings of Wijayanti et al. (2021), which show that food quality and safety have a direct correlation with increased digital marketing opportunities for MSMEs.

The need-based training approach used in this program also provided a significant impact. The training materials were designed based on field observations and interviews with partners, ensuring that the content delivered was contextual and aligned with the needs and socio-economic conditions of the community. Active participation of the partners in all stages



of the program—from planning and implementation to evaluation—encouraged a sense of ownership over the program and increased its sustainability potential.

This is in line with the community empowerment theory proposed by Chambers (1997), which emphasizes that active participation is a key indicator of success in community-based programs. Community involvement in the decision-making process has been proven to foster independence, collective responsibility, and local capacity in maintaining program sustainability after the facilitation ends.



Figure 2. Packaging Activities for Tofu Rolade and Tofu Dimsum

4. Digital Marketing as a Lever for Added Value

After participants successfully produced tofu-based processed products, the training continued with enhancing their digital marketing skills. Participants were taught basic product photography techniques, how to create promotional content for Instagram, how to prepare a catalog on WhatsApp Business, and how to open online stores on Shopee and Tokopedia. These skills are crucial because, according to Mustika & Adawiyah (2022), MSMEs that optimize digital marketing can experience a sales increase of up to 40–60% within six months. Through this activity, the branding and positioning of Kampung Emas Seyegan as a center for low-calorie, healthy, tofu-based culinary products became even stronger.

This training was also integrated into a value chain development framework for local products, enabling participants to understand the complete flow from production and processing to marketing. This approach not only equipped participants with technical skills but also opened opportunities for creating a more sustainable local economy. The role of the university as an assisting partner acts as a catalyst in the process of innovation, product quality improvement, and knowledge transfer to the community.

Overall, the results of the activity show that the combination of technical training, entrepreneurial capacity building, and optimization of local resources can serve as an effective community empowerment model based on culinary innovation. To ensure program sustainability, follow-up assistance is needed, particularly in strengthening branding, digital marketing, and partnership network development, so that the resulting economic impact can continue to grow and provide wider benefits for the surrounding community.



Figure 3. Processed Tofu Products

5. Impact of Empowerment

The integration of innovative product formulations with a participatory approach has generated several significant impacts for both the training participants and the partner community. From a technical perspective, it was recorded that 90% of participants were able to independently produce Tofu Rolade and Tofu Dimsum. The success rate of the products—including texture, taste, and shape—also showed a significant improvement after two practical sessions, indicating the effectiveness of the hands-on training method.

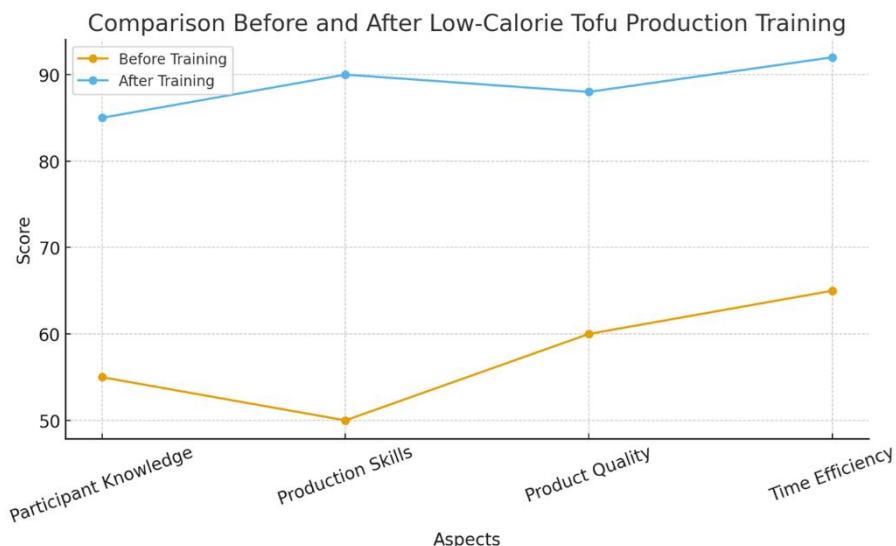


Figure 4. Training Results Chart

The comparison chart of training results shows a sharp increase in all measured aspects—participants' knowledge, production skills, product quality, and time efficiency. Before the training, the scores for all four aspects were in the range of 50–65, indicating that participants' understanding and skills were still at a basic level. However, after completing the training series, there was an average increase of about 30–40 points in each aspect.

The production skills aspect showed the highest improvement, rising from an initial score of 50 to 90. This illustrates that participants successfully mastered the techniques of making Tofu Rolade and Tofu Dimsum through a learning-by-doing process. The time



efficiency aspect also increased significantly, from 65 to 92, indicating that participants were able to apply faster, standardized processing techniques with minimal errors. Overall, the chart reflects that the training successfully enhanced participants' capacity comprehensively—both in terms of knowledge and technical skills in producing healthy tofu-based foods.

From a socio-economic perspective, this program has made a tangible contribution by opening new income opportunities for MSMEs through the development of innovative souvenir products. The identity of Kampung Emas as a healthy culinary village has become stronger with the emergence of new products based on low-calorie tofu. In addition, the training fostered entrepreneurial motivation among young people through a learning-by-doing approach, which encouraged the emergence of new local businesses.

In terms of sustainability, the products can be marketed either fresh or frozen, expanding the consumer reach and market potential. This training model is also easy to replicate by women farmer groups, PKK groups, and other household business groups. Overall, this program proves that healthy culinary innovation based on local potential can be an effective strategy to improve the economic independence of the village while strengthening the community's business ecosystem.

4. CONCLUSION

The Low-Calorie Tofu-Based Souvenir Production Training Program in Kampung Emas Seyegan successfully enhanced the community's capacity in product innovation, business management, and digital marketing. Through a participatory approach, participants were able to develop two flagship products—Tofu Rolade and Tofu Dimsum—which possess added value and strong potential as signature village souvenirs. The training not only improved technical skills but also strengthened MSME actors' abilities to calculate cost of production (HPP), create packaging, understand food safety, and utilize digital media for marketing. This program contributed significantly to the downstreaming of tofu commodities, expanded business opportunities, and increased household income. Overall, the implementation of this PKM strengthened family- and community-based economic resilience, while positioning Kampung Emas as a model of sustainable local economic empowerment.

Suggestions

The training program needs to be followed up with intensive mentoring so that MSMEs can continue to develop product innovation, packaging, and marketing. Strengthening branding and digital promotion is also important to expand the market. Support from the government and the private sector is needed in the supply chain, halal certification, and access to capital. This training model can also be replicated in other areas with adjustments to local needs to broaden the impact of empowerment.

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