

Processing Catfish Shreds For Economic Empowerment Of The Community In The Meruya Area, West Jakarta

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ABSTRACT

This community service program aims to empower the economy of the residents of Meruya Selatan Village, West Jakarta, through training in processing catfish into shredded fish. This activity is designed to address the issues of low income and lack of food processing skills among the local PKK mothers. Through a series of training and mentoring sessions, this program will equip participants with skills in producing high-quality catfish floss, preservation techniques, packaging, and effective marketing strategies. The implementation methods include initial surveys, intensive training, hands-on practice, and continuous monitoring. Other targets include improving the knowledge and skills of participants, as well as expanding the marketing reach of catfish floss products. By utilizing local potential and appropriate technology, it is hoped that this program can increase family income, strengthen food security, and encourage local economic growth in Meruya Selatan Village. The conclusion of the Joint Community program will involve a discussion, a session for questions and answers, and the collection of completed questionnaires from participants. The outcomes of the PKM activities will be published in the form of mass media, articles, and journal publications.

INTRODUCTION

Food, as a primary human need, often requires innovation in its processing to add variety to consumption and enrich nutritional and economic value. Diversification of food processing not only opens opportunities for improving the quality of community consumption but also utilizes existing natural resources more effectively. Careful management is necessary to maintain social and ecological benefits when using land for various economic activities like livestock farming and fisheries. Fishing, which is a vital aspect of the economy, particularly in protein production, can have its benefits expanded through the innovative processing of fishery products. The Ministry of Marine Affairs and Ministry of Maritime Affairs and Fisheries recorded national fish consumption at 55.37 kg

per capita in 2021. (Figure 1). This demonstrates the significant potential for developing a variety of fish-processed products, such as catfish floss, which not only enhances its market value but also broadens the community's food options.

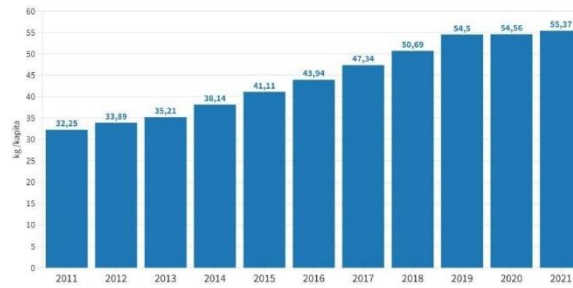


Figure 1. Fish Consumption Figures 2011-2021
Source: Ministry of Maritime Affairs and Fisheries, 2022

In the past decade, there has been a significant increase in national fish consumption, indicating a growing awareness among the public of the importance of animal protein in their diet. In 2011, national per capita fish consumption was 32.25 kg, and it surged by 69.17% to 55.37 kg per capita in 2021. 2014 saw the highest increase, rising 8.32% to 38.14 kg per capita, while 2020 saw the smallest increase, rising just 0.11% to 54.56 kg per capita. To meet the continuously increasing demand for fish consumption, there is a significant opportunity to develop fish processing into value-added products like catfish floss. The government, through the Ministry of Maritime Affairs and Fisheries (KKP), has targeted aquaculture production in 2024 to reach 9.4 million tons, with freshwater fish farming composition exceeding 60%. Aquaculture activities, encompassing fish maintenance, growth, and breeding in a controlled environment, hold significant potential for development in both vast areas and narrow urban spaces, facilitated by efficient and environmentally friendly methods. This approach gives opportunities for urban communities to actively participate in the production of catfish floss, in response to the need for protein and new economic opportunities.

The decline in income while needs continue to rise creates a significant challenge in meeting basic needs, including food, (*UNICEF Indonesia, 2021; World Bank, 2021*). In such situations, processing catfish into catfish flakes emerges as an innovative solution to address economic and food security issues. This initiative not only offers opportunities to increase family income through small home-based businesses but also ensures the availability of quality food by utilizing easily cultivated catfish.

Universitas Mercu Buana as one of the leading Higher education institutions in West Jakarta, with their resources and knowledge, play a key role in providing practical

solutions for the community, particularly in Meruya Selatan Village has a population of approximately 50,735 inhabitants and a total area of only 2.8 square kilometers, making it one of the smallest administrative areas in Kembangan District, through empowerment joint community programs. One of the specific initiatives under this program is the training on processing catfish into shredded catfish (catfish floss) as a value-added food product. This activity represents a collaboration between Mercu Buana University lecturers and students, involving members of the Family Welfare Empowerment group (PKK) and local micro, small, and medium enterprises (MSMEs) in Meruya Selatan. The collaboration aims to enhance household economic capacity and the sustainability of community-based small businesses. The program aims to provide the community with food processing skills that not only boost the economic value of catfish but also encourage the consumption of high-quality food. Additionally, we enrich this activity with business management training and simple bookkeeping, ultimately aiming to improve family economies. The team include 3 Lecturers and 10 students collaborate, providing training, mentoring, and guidance, while students have the opportunity to learn directly in the field and apply innovations developed by the university to support the local community in facing current economic challenges.

The main focus of the cooperation between Meruya Selatan Village and Mercu Buana University is on economic improvement through innovation in the fisheries sector, with one specific initiative being the processing of catfish into catfish floss. The very limited area, recognized as a commercial zone in the administrative center of West Jakarta, presents unique challenges in maximizing space for productive economic activities. We anticipate that processing catfish into catfish floss will serve as an innovative solution to boost family income, while also offering a highly nutritious alternative food source for the community.

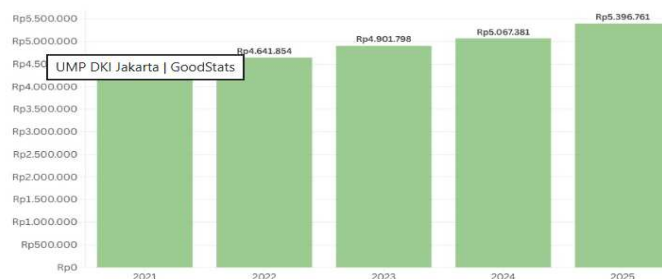


Figure 2. Average Monthly Income

Source: Ministry of Manpower, 2021

The average monthly income of residents in the industrial and service sectors in this sub-district remains below the UMP DKI Jakarta in 2024, at Rp4,901,798,

underscoring the significance of establishing new home-based economic opportunities. We hope that the implementation of proper processing techniques and skill development through collaboration with educational institutions like Mercu Buana University will not only increase residents' incomes but also improve their quality of life through the consumption of sustainable local products.

Subdistric of Meruya Selatan as a partner face challenges in increasing family income and the economy. To address this issue, universities play an active role in creating opportunities through programs aimed at improving the economy and mastering modern food processing techniques. One of the proposed innovative solutions is the processing of catfish into catfish floss, which not only adds economic value but also enriches the diversification of local food products.

The purpose of this activity is to empower lecturers and students in carrying out the Tri Dharma of higher education through community service outside the campus. This activity is designed to meet Key Indicators such as IKU 2, which focuses on student activities outside the campus, and IKU 3, which emphasizes faculty involvement in external activities. Additionally, the main focus of this community service is to meet the University's Additional Performance Indicators by enhancing partners' competencies in the fields of economics and food security.

Priority issues and the proposed solutions. The underutilization in fish processing is a problem, and the proposed solution is to provide training and assistance on processing, preservation, and packaging techniques for catfish floss. These techniques combine industry best practices with local wisdom to improve product quality and residents' skills. In the South Meruya subdistrict, residents also face the challenge of low income. The average income of the community in the industrial and service sectors is below the Jakarta Provincial Minimum Wage for 2022, with Rp 3,220,445.00 and Rp 3,747,102.00, indicating an economic gap. Enhancing the community's knowledge and skills to generate productive activities that can increase family income, such as processing catfish into more valuable products like catfish floss, is one step that can address this issue.

METHOD

The catfish empowerment program incorporates five stages of training implementation into catfish flakes, each encompassing important steps to ensure the success and sustainability of the activities. These stages begin with thorough planning

and end with evaluation and dissemination of results. Here is an explanation of each stage:

1. **Initial Stage.** The initial stage involves the formation and strengthening of the program implementation team. This team consists of experts with backgrounds in fisheries, food processing, and marketing. We conducted a program socialization for the target communities, including catfish fishermen and potential local entrepreneurs, after the team formation was complete. This socialization aims to introduce the program, collect community feedback, and refine the implementation plan based on the received input. At this stage, we also conduct intensive dialogue with partners to identify the most effective solutions for implementation.
2. **Implementation Stage.** At this stage, we carry out various practical activities to support community empowerment. First, we held a training session on making catfish floss, which covered the entire production process, from selecting raw materials to processing and adhering to food safety standards. Following this training, we provided the necessary equipment to the participants in accordance with the prepared budget. Next, participants engage in hands-on practice under the guidance of an instructor. We also provide training in packaging and marketing to help participants understand how to create attractive packaging and apply effective marketing strategies. Periodically, we conduct monitoring and mentoring to ensure production quality and assist participants in building a strong marketing network.
3. **Evaluation Stage.** The evaluation stage aims to measure the overall success of the program. We conduct evaluations by gathering feedback from participants and partners about the program's beneficial aspects and areas that require improvement. We also conduct continuous monitoring to guarantee the consistent application of the best practices we teach. We also conduct an economic impact analysis to assess the program's impact on participants' income and the local community.
4. **Report Preparation and Output Stage.** We collect data and findings from each stage after completing all activities to compile them into a comprehensive report. Additionally, we created video documentation of the training activities, featuring participant testimonials, for publication purposes. We also publish articles about the program in mass media and on social media to increase public awareness. We are preparing scientific articles to disseminate the results to the academic

community and practitioners. We have produced videos and published media to thoroughly document this program.

5. Knowledge Dissemination Stage. As an additional output, this program also involves disseminating knowledge to a wider public through various media. We will widely disseminate the training documentation and scientific articles to both practitioners and academics. The goal is not only to highlight the significance of innovation in catfish processing but also to advance a replicable empowerment model in other areas.

RESULT AND DISCUSSION

We conducted the trial production of catfish floss four times: on July 10, July 29, August 16, and August 22, 2024. Each stage of production aims to test various aspects of the catfish floss-making process, from the recipe and raw materials to product packaging. We use the results of each trial as evaluation material and refine the process to enhance its efficiency and yield high-quality products.

During the first production activity on July 10, 2024, the team continued to test the basic catfish floss recipe. At this stage, the main focus was on testing the spice composition and processing techniques that were most suitable for producing floss with the desired texture and flavor. We use the first production's results as a basis for improvement in subsequent productions.



Figure 2. Production Activity

On July 29, 2024, the team successfully created two variants of catfish floss: curry and rendang spices. We developed these two flavor variants to offer consumers a broader selection and showcase the product's innovative potential in flavor variations. This production process also signifies a significant milestone in guaranteeing the consistent implementation of the used recipe.



Figure 3. Production Activity

The team conducted the third production on August 16, 2024, with the aim of testing the use of catfish fillet as a substitute for whole catfish. The goal is to improve efficiency in the production process, both in terms of time and cost. However, the evaluation proved that using whole catfish is more cost-effective, while the use of fillets was considered to speed up the process.



Figure 4. Production Activity

On August 22, 2024, we carried out the fourth production activity, which centered on packaging the final product. A sealing machine packages the produced catfish floss in airtight pouches, making it ready for sale. We design this packaging to preserve the quality and durability of the catfish floss, enabling effective marketing and a longer shelf life. The results of the entire series of experiments show a significant increase in production efficiency and product quality, as well as the product's readiness to enter the market.



Figure 5. Production Activity

Training Session 1

Training session 1 took place at RPTRA Mahkota, Meruya Selatan Village, on July 12, 2024, from 08:00 to 11:45 WIB. The event was attended by Mr. Lurah M. Ghufri Fatchani, S.M., Head of LPPM UMB Mr. Dafit Febriyanto, M.Eng, Ph.D, Executive Chairwoman Dr. Nurul Hidayah, SE., Ak. M.Si, all team members; external speakers; and students. The event began with remarks from the Head of LPPM and the Village Head. Next, the external speaker, Mr. Ahmad Sugiarto, presented material on business diversification. There were 27 participants, including representatives from the partner companies.



Figure 6. PkM Activity

Training Session 2

The second session of the training took place at RPTRA Meruya Selatan on August 2, 2024, from 08:00 to 11:45 WIB. The event was attended by Mr. Lurah M. Ghufri Fatchani, S.M., the Head of Implementation Dr. Nurul Hidayah, SE., Ak. M.Si., all team members, and students. The event began with the Head of LPPM and the Village Head delivering opening remarks. Next, the presentation of materials by Putri Andari Ferranti, SE., MSM. and Dr. Nurul Hidayah, SE., Ak. M.Si., regarding the Calculation of Production Costs. Thirty-three partner representatives attended the presentation.



Figure 7. Presentation of materials

Training Session 3

Training session 3 took place at RPTRA Manuver, Meruya Selatan Village, on August 16, 2024, from 08:00 to 11:45 WIB. The event was attended by Mr. Lurah M. Ghufri Fatchani, S.M., Chief Executive Dr. Nurul Hidayah, SE., Ak. M.Si, all team members, external speakers, and students. The event began with the Head of LPPM and the Village Head delivering opening remarks. Subsequently, Ms. Puspitaningrum Pratiwi, an external speaker, presented materials on the processing of different types of catfish, while Yana Rahmatullah addressed catfish farming. The number of participants attending from the partner representatives was 27 people.



Figure 8. Presentation of materials

Training Session 4

Training session 4 took place at RPTRA Menara, Meruya Selatan Village, on August 23, 2024, from 1:00 PM to 11:45 PM WIB. The event was attended by Mr. Lurah M. Ghufri Fatchani, S.M., Chief Executive Dr. Nurul Hidayah, SE., Ak. M.Si, all team members, and students. The event began with the Head of LPPM and the Village delivering opening remarks. Next, the presentation of materials by Dr. Daru Asih, SE, M.Si on the exhibition of consumer products. The number of participants attending from the partner representatives was 31 people.



Figure 9. Presentation of materials

Results Of Target Evaluation And Outcomes

Based on the satisfaction survey results of 31 PKM participants, Universitas Mercu Buana's Community Services program received very positive responses and high satisfaction levels from the participants. The majority of respondents chose "Strongly Agree" or "Agree" for all aspects surveyed, with the highest percentage strongly agreeing on the usefulness of the training in developing knowledge, at 90.3%, and the benefits of the material as learning resources, at 83.9%. Participants deemed this program to have successfully enhanced their knowledge, motivated the application of acquired skills, and had the potential to increase their income. Although the aspect of product improvement received a lower "Strongly Agree" response compared to other aspects, overall collaboration with the Community Services team was deemed very beneficial and met the expected targets, demonstrating the program's success in providing a positive impact on the community.

Table 1.

Results of the PKM Participant Satisfaction Survey

No.	Description	Strongly Agree	Agree	Disagree	Strongly Disagree
1.	The expertise of the UMB PKM team can solve several community problems.	19	12		
2.	The UMB PKM team utilizes a simpler and faster method.	21	10		
3.	Training is very useful in developing the community's knowledge.	28	3		
4.	The materials provided are very beneficial as learning resources for the community.	26	5		
5.	The training provided has the potential	20	11		

	to increase the community's income.		
6.	The training provided can enhance the community's knowledge.	20	11
7.	The training provided can improve the community's product outcomes.	11	20
8.	The training provided encourages the community to continue in the future.	23	8
9.	The training provided can enhance the community's quality.	18	13
10.	The collaboration carried out with the PKM UMB team is beneficial for the community.	21	10
11.	The collaboration carried out with the PKM UMB team meets the cooperation targets.	17	14

CONCLUSION

The community service program in Meruya Selatan, which focuses on processing catfish floss, has shown very positive results in improving the quality of life for the target community. Through this program, the participants not only gained new knowledge about how to process catfish into shredded fish products but also improved their technical skills in the production process. This knowledge and these skills have proven to help them in producing high-quality catfish floss, which in turn has significantly impacted the increase in their income.

With the training and guidance in processing catfish, the community now has a new alternative for their economic empowerment. The catfish floss products produced have a wide market potential, both locally and regionally. This opens up better economic opportunities for the community, considering that catfish is an abundant and relatively inexpensive raw material. The success of this program shows that the development of processed catfish products not only improves individual welfare but can also contribute to the overall economic growth of the community.

This program also reflects how a community-based approach to food product processing can bring about positive change. Through the development of local skills and knowledge, the community is not only able to create new sources of income but also strengthen their economic independence. As the next step, it is important to continue and expand this program with additional support in terms of marketing, distribution, and product innovation. This will ensure that the catfish floss product can reach a wider market and provide sustainable benefits to the community.

Overall, the development of processed catfish products offers a promising solution for economic empowerment and the improvement of community welfare, as well as providing a successful example of how community service programs can bring significant positive impacts. For future community services programs or training sessions, several improvements can be considered to enhance effectiveness and sustainability. Promoting sustainability by linking participants to local markets or cooperatives and encouraging the formation of support groups can ensure long-term benefits. Importantly, these improvements can directly enhance participants' income through the sale of catfish floss products, creating a tangible economic impact for households.

SUGGESTION

The collaboration between the Community Services Grant team of Universitas Mercu Buana and the Meruya Selatan community has proven effective in addressing economic issues and improving the welfare of the community. This program demonstrates that innovation in food processing can be a very effective solution to address food security issues and increase community income. Overall, this program has shown the community's potential and improved economic welfare. However, the program requires support from various parties to operate sustainably and achieve a wide impact.

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