

# Increasing Community Capacity through Assistance in Processing Shredded Catfish and Nuggets in Argomulyo Village, Sedayu, Bantul

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## ABSTRACT

Program Penguatan Kapasitas Organisasi Kemahasiswaan (PPK ORMAWA) is one of the community service activities from Mercu Buana University Yogyakarta in Argomulyo Village. It was carried out by the Palang Merah Indonesia Unit VIII UMBY Voluntary Corps (KSR) student organization with the Agricultural Products Technology Student Association. One of the programs is training activities on catfish processing into catfish nuggets and floss for the local community. The method for implementing this program are active participation, training, and assistance to the community. The target groups involved in this program were the mothers, especially those with toddlers. The training activities included discussion, cooking demo practice, and packaging of catfish nuggets and floss. It was aimed to provide knowledge regarding the importance of consuming animal protein and new skills to the community in Argomulyo Village in processing catfish into nuggets and floss as a variation of a high-protein food menu.

## Introduction

Catfish (*Clarias sp.*) is a type of freshwater fish that is widely cultivated in Indonesia. Catfish are a family of fish that live in freshwater. It has distinctive characteristics, such as a slippery body, relatively long and flat whiskers around its mouth. It is also very well known to be consumed and processed into various dishes.

Apart from being used as food, this fish can be processed into other interesting selling products such as nuggets, shredded meat, and crackers. Training on various catfish processing has been carried out in multiple regions. Several examples are processing crackers, nuggets,

meatballs, fillets, dragon's feet and shredded meat without oil (Amar et al., 2022; Andayani & Ausrianti, 2021; Dewi Rahmawati et al., 2021; Endrawati et al., 2021; Fitriani, 2019; Mulyadi & Indriati, 2021; Novianti et al., 2021; Rahayu et al., 2019; Widyatami & Wiguna, 2016). By means of training, it is known that can increase children's catfish consumption and the economic value of fish as food ingredient.

It has been known that the Argomulyo Village community, as partners in this activity, still need to develop a diversification of processed catfish. Through the Student Organization Capacity Strengthening Program activities by the Mercuru Buana University Yogyakarta students' team, a socialization program and direct practice in processing catfish into shredded meat and nuggets were carried out. These two products are chosen because they are relatively easy to make and popular with children and can be stored for quite a long time. This training is aimed to provide new skills regarding fish processing to the residents of Argomulyo Village. It is intended to become an innovative dish in the Additional Menu Program (PMT) that is protein, nutritious, and economically valued.

## **Method**

This program was carried out in September 2023 at Padukuhan Kaliurang Argomulyo. The method of implementing this activity was divided into 2 methods: socialization and practice of processing shredded catfish and nuggets.

### **1. Socialization**

Socialization was carried out by delivering material about food ingredients especially catfish characteristics and proper handling methods. This event was attended by 30 people, including young mothers with toddlers and Middle-Small Enterprises members. Participants were expected to gain understanding and insight and be able to practice in processing shredded catfish and nuggets. Making catfish into shredded fish and nuggets could increase consumption from all levels of society. Apart from that, it also extends the shelf life. Before being cooked into shredded meat, preliminary treatment was carried out to remove the unpleasant fishy flavor.

### **2. Practice of processing shredded catfish and nuggets**

This stage explained the raw materials and spices used in making catfish floss and nuggets. All community groups in Argomulyo village practiced making catfish floss and nuggets. Cooking practice could improve community skills and make a Genzi Kitchen Group (*Generasi Sadar Gizi* or Nutrition Aware Generation).

## A. Processing of Shredded Catfish

The process of making catfish floss involved several stages, including:

### a) Preparing materials

All ingredients used in processing catfish floss were prepared carefully to minimize errors. There were 500 grams of catfish meat, 5 cloves of garlic, 5 cloves of shallots, 4 dried chilies, 2 cayenne peppers, 2 grounded candlenuts. The complementary seasonings were also prepared. There were 3 stalks of lemongrass, 2 galangal segments, 200 ml of coconut milk, 4 bay leaves, 1 tbsp coriander, 1 tsp pepper, 1 tbsp salt, 180 grams of brown sugar, 1 tsp granulated sugar, 3 lime leaves, and cooking oil.

### b) Sorting

The weighed catfish were then sorted to separate the catfish meat from the spines, dirt, and fish heads. After that, the catfish meat was washed and pressed until the remaining water came out.

### c) Steaming

Steaming was done to make it easier to separate the spines that were still in the catfish meat. This stage was carried out 20 minutes after the water boils.

### d) Frying 1

The ground spices were then cooked in oil, and coconut milk and sugar were added. At this stage, medium heat was used. Afterward, the catfish meat was added to the spices. The catfish meat was stirred during cooking until it produced a slightly brown shredded color. Finally, the semi-finished shredded meat was removed and drained.

### e) Frying 2

The second frying aimed to maximize the maturity of the catfish floss. The semi-finished shredded meat obtained from frying 1 was cooked in cooking oil for + 30 minutes using low heat. This stage was carried out until the shredded meat looked dry and the color changed into brown.

### f) Pressing

At this pressing stage, the aim was to ensure that the fish floss produced was dry without oil for a longer shelf life. This catfish floss product was packaged and stored for up to 30 days at room temperature.

## B. Processing Catfish Nuggets

The process of making catfish nuggets consisted of several stages including:

### 1. Weighing ingredients

Each ingredient was weighed according to the recipe. There were 200 grams of catfish meat, 140 gr wheat flour, 1 egg, 2 tsp salt, 2 tsp pepper, 3 tsp mushroom stock, garlic, carrots, spring onions, breadcrumb

### 2. Sorting

The weighed catfish were then sorted to separate the fish flesh from the spines, dirt, and fish heads. After that, the cleaning process was carried out.

### 3. Steaming 1

Steaming was done to make separating the spines still in the meat easier.

### 4. Milling

This process aimed to grind the catfish meat and manually check for remaining spines on the meat.

### 5. Mixing ingredients

All the ingredients for making nuggets were mixed, including catfish meat as the main ingredient and additional ingredients, such as spices, carrots, spring onions, and eggs, as a binding agent.

### 6. Steaming 2

The dough was added to a box baking dish and continued with steaming. Steaming was done to produce cooked ingredients using boiling water for up to 30 minutes.

### 7. Dipping in the breadcrumb

Dip the formed nugget dough in egg white and breadcrumb in this stage.

## Results and Discussion

Socialization and training activities on animal food processing with PKK cadres from Argomulyo Village were held on September 10 and September 17, 2023, at the Sumber Berkah Waste Bank, Argomulyo Village. This event was carried out by 20 participants, including PKK (*Pemberdayaan dan Kesejahteraan Keluarga*) and PPK Ormawa members.

This program began with socialization (delivery of material, question and answer, and discussion) and followed by joint processing practices. The activity also presented how to

package and make product labels to make them marketable. This section conveyed that catfish could be processed into long-lasting and rich protein products, such as shredded catfish and catfish nuggets. These products diversification have the advantage of being practical to use, store, and are liked by all levels of society. This program also provided information about using the materials and tools needed to produce and make catfish shreds and nuggets.

a. Processing catfish floss

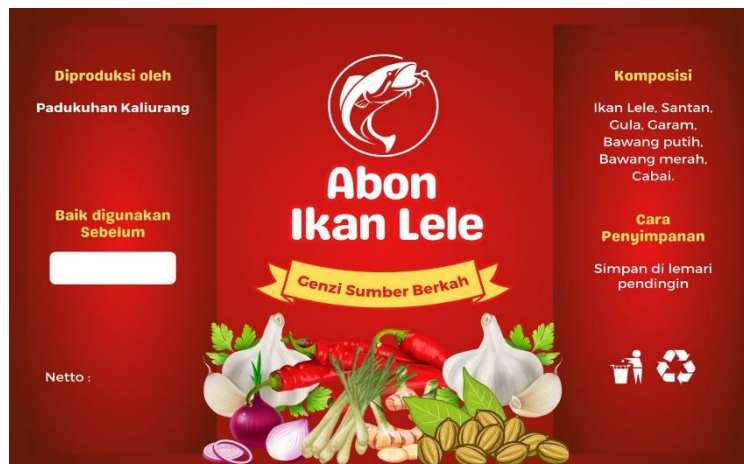
The practice of making shredded catfish was carried out by residents of Argomulyo Village, who were members of the Genzi Kitchen group and were accompanied by the PPK ORMAWA team. This activity would increase the residents' skills and understanding of the importance of good nutritional intake for children.

Making shredded catfish requires materials and tools that were relatively simple and easy to obtain at a reasonably affordable price. The ingredients for producing catfish floss included catfish meat, coconut milk, brown sugar, granulated sugar, spices such as galangal, garlic, shallots, and lemongrass bay leaves. The tools needed in cooking fish floss included a steamer for steaming catfish, a frying pan, a stove, a blender for grinding spices, a basin, and an oil drainer to drain the floss. The process included weeding and cleaning the meat, separating the meat from the spines, mixing the meat using ground spices, and adding coconut milk, granulated sugar, and brown sugar. During the frying process, we must continue to stir so that the shredded meat cooks evenly and you could taste the spices. The process was stop when the fried meat fibers looked slightly brown. An oil drainer was used to drain cooking oil from the shredded meat. For large-scale production, it was recommended that the participants used a spinner to reduce the oil from the catfish floss so that it could dry optimally. After draining the oil, then shred it until it looked like fibers. A demonstration of processing catfish floss is shown in Figure 1 below:



**Figure 1. Catfish floss cooking process**

In this community service, the trainers also provide socialization by conveying informative packaging models based on product packaging standards and practices. As a means of communication media, packaging must be able to convey information on the packaging label, including product name, trademark, distribution permit, information about halal, name and address of the manufacturer, date, month and year of expiry, weight / contents, list of ingredients used and composition. The recommended shredded packaging label design for *Genzi Source of Blessings* kitchen products can be seen in Figure 2 below:



**Figure 2. Catfish floss label design**

The packaging label must be attached on the product. Good packaging was tight so that there was no contamination from the outside, neat, and contained a label with appropriate information according to standards. The finished "Genzi Sumber Berkah" shredded meat is packaged in a standing pouch with a content weight of 65 gr / pouch. The results of processing shredded meat from community service in the Genzi Kitchen group are seen in Figure 3 below:



**Figure 3. Catfish floss**

b. Processing catfish nuggets

Training or demonstration on making catfish nuggets was a continuation activity carried out on September 17, 2023, at 09.00 am at the Sumber Berkah Waste Bank. The team attended the training of PKK members, and the PPK ORMAWA KSR Unit VIII team and their supervisor accompanied them.

The training was carried out by demonstrating each step of making catfish nuggets. The community and PKK members practiced according to what had been previously informed by the PPK ORMAWA KSR Unit VIII team. The practical activity began with cleaning, steaming, separating the catfish meat from the spines, mixing all the ingredients, steaming, and then forming the nuggets. The final process was frying the nuggets. The method of making catfish nuggets can be seen in Figure 4 below:



**Figure 4. Catfish nuggets cooking process**

The activity of making catfish nuggets in Argomulyo Village went smoothly. The community and PKK members were very enthusiastic about taking part in developing food products using catfish as raw materials. The community and PKK cadres of Argomulyo Village, together with the ORMAWA KSR Unit VIII PPK Team learned together how to make catfish nuggets, starting from the recipe, tools, and ingredients for making it. The results processed by the community and PKK members of Argomulyo village were excellent when observed by the Team. The results of processed products are shown in Figure 5 below:





### Figure 5. Catfish nugget products

After processing, the next step was packaging. Packaging is one of the essential things for a product to protect it from damage. Apart from that, packaging can increase the economic value of a product. The following was the recommended packaging label design for catfish nugget products by GenZi Kitchen, which can be seen in Figure 6 below:



Figure 6. Packaging label design

Overall, this activity received a positive response from the community. The model for developing service activities that began with socialization, conveying information through leaflets, and joint practice was effective and was widely applied in various locations (Amar et al., 2022; Sari et al., 2024).

### Conclusion

The catfish floss and nuggets were processed products that can be used as business alternatives to increase income. All groups can also consume it. Catfish cooked as shredded meat and nuggets can increase the selling price of catfish; it needs to be supported by correct processing to maintain product quality. Apart from its nutrition and taste, processed catfish floss and nuggets have the potential to be developed because of their long shelf life. After this activity, there will be continued assistance from the village government and related agencies to support the production capacity and quality of shredded catfish and catfish nuggets.

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