

## TRAINING FOR FISH BASED FOOD PROCESSING IN CREATING ECONOMIC OPPORTUNITIES FOR RESIDENTS IN TARUNA JAYA DISTRICT

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### Abstrak

Kelurahan Segara Jaya, Kecamatan Taruma Jaya, Kabupaten Bekasi memiliki lokasi ekowisata mangrove yang kini mulai ramai dikunjungi wisatawan. Lokasi tersebut lebih khusus dijadikan Pusat Restorasi dan Pembelajaran Mangrove Kabupaten Bekasi oleh Kementerian Kelautan dan Perikanan. Meskipun wisatawan sudah banyak berkunjung kesana namun kehidupan masyarakatnya masih saja belum memenuhi standar. Berdasarkan observasi awal diketahui pendapatan masyarakat antara Rp.800.000 sampai Rp.900.000 Jumlah tersebut jauh dari cukup untuk memenuhi kebutuhan hidup. Masyarakat di Desa Segara Jaya ini umumnya mengandalkan pada mata pencaharian sebagai nelayan. Kehidupan nelayan di desa ini masih sangat sederhana. Guna membantu memenuhi kebutuhan keluarga, para isteri nelayan yang ada di Desa Segara Jaya ikut tergabung dalam Kelompok Usaha Bersama (KUB) yang bergerak dalam bidang usaha pengolahan hasil tangkapan yang hasilnya dijual kepada wisatawan yang mengunjungi ekowisata mangrove yang ada disana. Dalam kegiatan abdimas pendekatan yang dilakukan adalah dengan metode pelatihan dan pendampingan dalam pemasaran. Adapun dari hasil kegiatan pengabdian masyarakat ini diperoleh hasil, peserta dapat mempraktekannya dengan hasil baik cara mengolah ikan tongkol menjadi makanan olahan berupa mpek-mpek dan tekwan. Kekurangan dalam kegiatan ini adalah hasil olahan memiliki rasa ikan yang sangat pekan sehingga cenderung tidak biasa, pelatihan selanjutnya diharapkan adanya temuan baru terkait metode pengolahan dengan menekan bau pekat dari ikan dan racikan bumbu sesuai takaran tertentu dalam proses pembuatan jenis makan ini.

**Kata kunci:** Diversifikasi Makanan, Ikan Tongkol, Pelatihan, Usaha Mikro, Pemberdayaan

### Abstract

Segara Jaya Village, Taruma Jaya District, Bekasi Regency has a mangrove ecotourism location which is now starting to be visited by tourists. The location is more specifically used as the Bekasi Regency Mangrove Restoration and Learning Center by the Ministry of Maritime Affairs and Fisheries. Even though many tourists have visited there, the life of the people is still not up to standard. Based on preliminary observations, it is known that people's income is between Rp. 800,000 to Rp. 900,000. This amount is far from enough to meet their daily needs. The people in Segara Jaya Village generally rely on their livelihood as fishermen. The life of fishermen in this village is still very simple. In order to help meet the needs of the family, the fishermen's wives in Segara Jaya Village joined the Joint Business Group (KUB) which is engaged in the business of processing catches whose results are sold to tourists who visit the mangrove ecotourism there. In community service activities the approach taken is training and mentoring methods in marketing. As for the results of this community service activity, the results were obtained, the participants were able to practice it with good results, how to process tuna into processed food in the form of dumplings and tekwan. The drawback in this activity is that the processed products have a fishy taste that is very thin so that they tend to be unusual, further training is expected for new findings related to processing methods by suppressing the thick smell of fish and seasoning according to certain doses in the process of making this type of food.

**Keywords:** Food Diversification, Tuna, Training, Micro Business, Empowerment

### INTRODUCTION

Segara Jaya Village, Taruma Jaya District, Bekasi Regency has a mangrove ecotourism location which is now starting to be visited by tourists. The location is more specifically used as the Bekasi Regency Mangrove Restoration and Learning Center by the Ministry of Maritime Affairs and Fisheries. Even though many tourists have visited there, the life of the people is still not up to standard. Based on preliminary research, it was found that the average income of fishermen there per month ranges from

Rp. 800,000, - to Rp. 900,000, - This amount is far from enough to meet the needs of life. The people in Segara Jaya Village generally rely on their livelihood as fishermen. The life of fishermen in this village is still very simple. This is because their income is minimal so that they cannot fulfill a decent life. The following is an overview of their settlement and a map of the location of Desa Segara Jaya Bekasi (Dodo Murtado, 2020).



Figure 1. Fisherman settlements in Segara Jaya Bekasi Village

Generally, the men who live in Segara Jaya Bekasi Village work as fishermen. They go to sea to get the catch of fish which will be sold in the form of fresh fish. The following is an overview of the activities of fishermen in Segara Jaya Bekasi Village.



Figure 2. Fishermen's activities in Segara Jaya Village

In order to help meet the needs of the family, the fishermen's wives in Segara Jaya Village joined the Joint Business Group (KUB) which is engaged in the business of processing catches whose results are sold to tourists who visit the mangrove ecotourism there. However, the processing of the fish caught that they sell is still very simple, namely by frying it and then serving it directly to customers so that their processed products are only fried shrimp, fried fish, fried squid, and others. (Talib & T, 2015). In addition, based on the results of observations during the preliminary study, the way they clean the processed fish is still not hygienic. Sometimes the fish ingredients to be fried still contain remnants of dirt which, when seen by a potential buyer, of course, will not arouse the appetite to buy or consume it. The following is a picture of processed catch products that are sold to tourists by frying them.



Figure 4. Processed products sold to tourists

In addition to the caught fish being processed by frying, this fish is also processed into salted fish products whose selling value is also low, only around Rp. 20.000,- to Rp. 40.000,- per kg. The processed results are indeed more durable. But the price is also relatively cheap so that the profit from the sale also does not provide adequate results for a decent living. The following is an overview of the condition of the fishermen's salted fish drying area in this village.



Figure 4. Salted fish drying area owned by fishermen in Segara Jaya Bekasi Village

The fish catches obtained by fishermen in Segara Jaya Village were dominated by pelagic fish, including tuna, mackerel, skipjack and mackerel. Tuna fish are often in abundance. The selling price of the fresh fish follows the market price. Tuna, mackerel, skipjack and mackaerel are sold on average at IDR 25,000 per kg. Meanwhile, the price of mackerel can be up to twice that of tuna. If the fish catch is marketed fresh at the fish market, the fishermen's income will be limited because the selling price is relatively low, making them unable to live properly due to their inadequate income (Utama et al., 2022). Tuna is one of the fishermen get in Segara Jaya Bekasi Village and can be processed into processed products with high economic value (Alhanannasir et al., 2019).



Figure 5. (*Euthynnus affinis*)

Tuna (*Euthynnus affinis*) comes from the Scombridae family, lives in surface waters (pelagic fish) in the Indo-West Pacific region, including the waters of the Java Sea. Tuna is one type of catch that is important for fishermen. Usually this fish is caught together with other fish by gill nets and troll line. Tuna is widely traded in the form of fresh fish, frozen fish, canned fish, salted fish, smoked fish and pindang fish. For the diversification of processed products, in order to increase the added value, the form of processing tuna into mpek-mpek, tekwan, fish balls, otak-otak and crackers can be an alternative that has the potential to provide higher profits (Alhanannasir et al., 2018).

The results of the study show that there are around 24% of coastal communities who work as processors (24%) (Rifqi et al., 2021). The fish processors in Segara Jaya Bekasi Village, which are under the auspices of the Joint Business Group (KUB), number around 60 women, most of whom are fishermen's wives. They become KUB members and participate in the activities scheduled, the aim is to get additional income. Basically, added value can be given to fish caught by fishermen in this village which are abundant and relatively cheap, such as tuna, if this fish is processed into a product that is preferred by the community/tourists and this can be done by fish processors incorporated in KUB by

processing them into other products that have higher economic value (Hadrayanti Ananda et al., 2020). But the problem is that KUB members have minimal knowledge of other processing techniques other than just frying. Based on the results of the preliminary research, information was obtained that this was because they did not know the types of processed products with high economic value that could be produced from tuna.

**METHOD**

In order to adopt fish processing technology that turns fresh tuna into mpek-mpek, tekwan, fish balls, otak-otak and crackers that invite consumers' appetite to buy them, the fish processors in Segara Jaya Bekasi Village experience the following problems/problems:

- a. Knowledge about fresh fish and its handling is still limited.
- b. Knowledge about the diversification of processed fish products is still limited.
- c. Skills to diversify processed fish products are still limited.

In connection with the above, it is necessary to look for strategies and solutions so that the problems that are the problems of fish processors in Segara Jaya Bekasi Village can be handled so that fish processors can adopt technology in diversifying processed products made from tuna in order to gain profits as expected (Lilimantik et al., 2022). The strategies and solutions offered in approaching the implementation of community service are several approaches:

- 1. Provision of knowledge to fish processors, regarding:
  - a. The criteria for fresh tuna and proper handling are to produce hygienically processed products.
  - b. The importance of diversifying processed fish products made from tuna.
  - c. Mpek-mpek, tekwan, fish balls, otak-otak and crackers as processed fish products with high economic value are suitable for development.
- 2. Provision of skills on how to make dumplings, tekwan, fish balls, otak-otak and crackers to fish processors who are members of the Joint Business Group. The knowledge provided to the partner community, in this case the fish processors who are members of the Joint Business Group, is in the form of good fish processing methods so that the processed fish is not contaminated with pathogenic microbes that can harm health.
- 3. Apart from being given knowledge, partner communities are also given skills in making dumplings, tekwan, fish balls, otak-otak and crackers made from tunad. The tools, materials and process for making dumplings, tekwan, fish balls, otak-otak and crackers that the UT Abdimas team will teach the processors in this village as presented in Table 2, Table 3 and Table 4.

**RESULTS AND DISCUSSION**

In this training and mentoring activity, the UT community service implementation team has made several preparations related to technical implementation and assistance in providing material, while the activities carried out include the following:

Table 1. Tools, materials and procedures for making mpek-mpek

No.	Tools, materials	information
1.	Tools	Blender, pan, frying pan, cutting board, basin, ladle, ladle, strainer
2.	Materials	Mpek-mpek: Tuna, tapioca flour, wheat flour, salt, 250 ml of clean water, chicken eggs. Gravy / Vinegar Mpek-Mpek: Palm sugar, kating garlic, tamarind water, clean water, garlic, cayenne pepper according to taste, soy sauce, dried ebi, cucumber.
3.	procedures	The process of making mpek-mpek is as follows. 1. Make glue by mixing two tablespoons of sago and 1/2 cup of star fruit water, then heating it until it becomes glue. 2. Boil the water first until it boils. 3. To make the mpek-mpek dough, prepare 250 ml of water, add two teaspoons of salt, stir until evenly distributed, then

No.	Tools, materials	information
		<p>add 300 g of fish meat that has been blended, two eggs and glue. All ingredients are stirred again until evenly distributed.</p> <ol style="list-style-type: none"> <li>4. Add 125 g of wheat flour and 200 g of sago flour. The dough is kneaded thoroughly.</li> <li>5. Shaping the dough into eempek-mpek submarines or lenjer.</li> <li>6. Put the dough that has been formed into the boiling water, and the cooked mpek will float after 10 minutes of boiling. Mpek-mpek that has been cooked, removed and drained.</li> <li>7. Mpek-mpek is ready to eat without frying or frying it first. The dish is served by placing the mpek-mpek on a plate, sprinkled with dried dried shrimp and cucumber slices on top.</li> </ol>

Table 2. Tools, materials and procedures for making tekwan, fish balls and otak-otak

No.	Tools, materials	information
<b>Tekwan procedures</b>		
1.	Tools	Blender, pan, frying pan, cutting board, basin, ladle, ladle, strainer
2.	Material	<ol style="list-style-type: none"> <li>a. Tekwan: tuna, salt, ice water, chicken eggs, tani sago flour.</li> <li>b. Gravy: shallots, garlic, large shrimp with heads removed, mashed, salt, clean water, ground pepper, vinegar mpek-mpek.</li> <li>c. Complement: chopped celery and green onions, sliced ear mushrooms, long sliced jicama like julienne, fried onions, dried tuberose flowers.</li> </ol>
3.	Process	<p>Tekwan:</p> <ol style="list-style-type: none"> <li>1. Make tekwan dough by mixing 500 g fish, 1 tablespoon salt and 1 egg. Then the mixture is mixed with 200 ml of ice water, stir until evenly distributed, then add 300 g of sago, stir again until evenly distributed.</li> <li>2. Form the tekwan dough into small rounds using a spoon or you can use your hands. Previously, hands were sprinkled with sago.</li> <li>3. Put the dough that has been formed into the boiling water.</li> <li>4. Wait for the tekwan circles to float for 5 minutes, then remove and drain.</li> </ol>
<p><b>Fish Baso Making:</b> The method of making fish balls is the same as making tekwan circles, except that in making fish balls, the dough is mixed with ice.</p>		
<p><b>Making Otak-otak:</b> The method of making otak-otak dough is the same as making tekwan dough, except that in making otak-otak, the dough is wrapped in small pieces using banana leaves, then baked.</p>		

**Outcome Target**

After the implementation of this Community Service activity, it is hoped that several outcomes will be realized, namely:

1. Partner communities, namely fish processing groups that are members of the KUB, benefit in the form of:

- a. Have insight and knowledge about how to handle good fish, and the importance of diversifying processed fish.
- b. Have skills in processing pempek-mpek, tekwan, fish balls, otak-otak and crackers.
- c. Growing awareness and changing attitudes to start diversification of processed fish products by utilizing the potential of tuna resources to increase their income.

## EXECUTION

### Phase I Activities (Processing Tuna Fish into Mpek-Mpek)

Initially, the UT Abdimas Team Leader explained the ingredients needed according to his measurements to make gravy (cuko) and dumplings. Then the participants were given an example of how to process it into gravy (cuko) and dumplings which are ready to be consumed. After giving examples by the UT Abdimas team was deemed sufficient, the participants were divided into 6 groups, each group was given materials and tools so that each member of the group can practice directly. If there are those who are still unskilled, the UT Abdimas team will teach them until they become more skilled. Here is the atmosphere during the activity.



Figure 6. The atmosphere during the practice of making cuko (mpek-mpek sauce)

### Phase II Activities (Processing Tuna Fish into Tekwan)

Tekwan is a typical food of the people of Palembang. This food can also be called fish balls, it's just that the sauce is filled with other additional ingredients such as: tuberose, benchang, mushrooms, green onions and celery and shrimp that have been blended. This additional ingredient makes the tekwan sauce more delicious than the meatball sauce. Before practicing making tekwan, the UT Abdimas team explained the ingredients needed according to the measurements to make the tekwan sauce and seeds. Then the participants were given an example of how to make tekwan sauce and seeds to make tekwan ready for consumption. After the giving of examples by the UT Abdimas team was deemed sufficient, the participants were divided into 6 groups, each group was given materials and tools so that each group member could practice directly. If there are those who are still unskilled, the UT Abdimas team will teach them until they become more skilled. Here is the atmosphere during the activity.



Figure 7. The atmosphere during the practice of making tekwan sauce and tekwan

After the phase 2 activity was completed, all those present, both the UT Abdimas team and the participants, tasted the results of their practice. Below are photos of the activity.



Figure 8. The atmosphere when participants taste the results of their practice

During the practice product tasting activity, information was collected from the participants and UT Abdimas team members about the taste of the product of this activity. Based on the results of the participants' assessment, the tekwan soup was rated "very delicious" and it was their first time tasting it. Likewise with the pempek-mpek sauce they made, they said it was delicious and they liked it. Judging from the tekwan seeds, they stated "pretty good". The reaction was different when the participants were asked about their tekwan sauce, which immediately stated "very good". This indicates that the taste of tekwan from tuna meat is rather (Veronica et al., 2020). This statement is supported by the statement of a member of the UT Abdimas team who stated that tekwan made from tuna has a slightly fishy smell and the color is less attractive because it is rather grayish. Likewise with the mpek-mpek, they also get the same rating.

## CONCLUSION

Community Service Activities with topics training for fish based food processing in creating economic opportunities for residents in taruna jaya district done well and smoothly. As a result of the activity, participants were able to practice it with good results by processing tuna into processed food in the form of dumplings and tekwan. However, from the results of this activity, the taste of tekwan and the resulting mpek-mpek did not get a very good rating, this is thought to be due to the basic ingredient of tuna which has a stronger fishy smell than other types of fish. Besides that, the color of the product it produces is also less attractive (a bit grayish). In order to get a product that is more attractive to the participants to consume it or to attract buyers if the product is produced by the participants themselves for sale, the basic ingredients for making mpek-mpek and tekwan should come from a type of fish with white flesh like mackerel and has a high level of low fishy odor. However, to see whether or not it is appropriate to use mackerel for sale and generate financial benefits for the maker or seller, further studies are needed. Therefore, Abdimas activities like this need to be carried out again in this area using other types of fish. Manufacturer or seller, further studies are needed. Therefore, Abdimas activities like this need to be carried out again in this area using other types of fish.

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