

Shrimp Cracker Making Business in Indragiri Hilir

Usaha Pembuatan Kerupuk Udang di Indragiri Hilir

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Abstract

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Indragiri Hilir is one of the districts with extensive waters and abundant fishery production. The potential for capture fisheries in Indragiri Hilir Regency is very large. In 2021, the potential for capture fisheries was 53,057.13 tons. Shrimp is a fishery commodity with high economic value and a favorite of Indonesian exports in the fisheries sector. Shrimp crackers are a series of food processing processes that combine tapioca flour with fresh shrimp to produce crispy snacks with a distinctive flavor. This process involves several critical stages that must be carried out carefully to produce high-quality products. Shrimp crackers are one of Indonesia's traditional snacks that have a distinctive taste and are in demand by various groups. Based on this, this study aims to determine how the shrimp cracker-making business process in Indragiri Hilir will be carried out in 2024. The research results obtained from this study are the shrimp cracker-making business in Indragiri Hilir, precisely in Tanah Merah Village, starting from the preparation, processing, and packaging stages. Shrimp crackers have been marketed to regions including Irian Jaya, Batam, Pekanbaru, Palembang, and Java. The development of the shrimp cracker processing business not only increases the livelihood of local people but also contributes to reducing unemployment in the area.

Keywords: Shrimp crackers, Shrimp, Business.

Abstrak

Indragiri Hilir merupakan salah satu kabupaten yang memiliki perairan yang cukup luas dengan produksi perikanan yang cukup melimpah. Potensi perikanan tangkap di Kabupaten Indragiri Hilir sangat besar, pada tahun 2021 potensi perikanan tangkap sebanyak 53.057,13 ton. Udang merupakan salah satu komoditas perikanan yang memiliki nilai ekonomi tinggi dan menjadi favorit ekspor Indonesia di sektor perikanan. Pembuatan kerupuk udang adalah rangkaian proses pengolahan makanan yang memadukan tepung tapioka dengan udang segar untuk menghasilkan camilan yang renyah dan memiliki rasa udang yang khas. Proses ini melibatkan beberapa tahapan penting yang harus dilakukan dengan cermat agar menghasilkan produk berkualitas tinggi. Kerupuk udang merupakan salah satu jajanan tradisional Indonesia yang memiliki cita rasa khas dan diminati oleh berbagai kalangan masyarakat. Berdasarkan hal tersebut, tujuan penelitian ini adalah untuk mengetahui bagaimana proses usaha pembuatan kerupuk udang di Indragiri Hilir dilakukan pada tahun 2024. Hasil penelitian yang diperoleh dari penelitian ini adalah usaha pembuatan kerupuk udang di Indragiri Hilir, tepatnya di Desa Tanah Merah, mulai dari tahap persiapan, pengolahan, dan pengemasan. Kerupuk udang telah dipasarkan ke berbagai daerah termasuk Irian Jaya, Batam, Pekanbaru, Palembang, dan Jawa. Pengembangan usaha pengolahan kerupuk

udang tidak hanya meningkatkan mata pencaharian masyarakat setempat, tetapi juga berkontribusi dalam mengurangi pengangguran di daerah tersebut.

Kata kunci: Kerupuk udang, Udang, Bisnis

1. Introduction

Shrimp is one of the fishery commodities with high economic value and is Indonesia's favorite fishery sector exporter. Animals from this crustacean group have unique characteristics, with a segmented body protected by an exoskeleton containing chitin. In Indonesian waters, there are various types of economically significant shrimp, such as tiger shrimp (*Penaeus monodon*), whiteleg shrimp (*Litopenaeus vannamei*), and giant prawns (*Macrobrachium rosenbergii*). Regarding habitat, shrimp can be found in various aquatic ecosystems, from sea brackish to fresh water. The life cycle of shrimp is exciting, where most species of marine shrimp will migrate to brackish waters during spawning. The hatched shrimp larvae will develop through several stages (nauplius, zoea, mysis, and post-larva) before finally becoming adult shrimp (Wijayanto & Supriyanti, 2024).

Shrimp fishing is a fishery activity that requires special techniques and strategies that consider the characteristics of shrimp that are different from fish in general. Shrimp fishing activities are carried out using various methods and fishing gear that are adjusted to the type of target shrimp, water conditions, and the scale of fishing operations. In shrimp fishing operations, the selection of fishing gear is a crucial factor determining the operation's success. Common fishing gears include trammel nets (three-layer nets), mini trawls in permitted areas, arad nets, and shrimp trawls. Trammel nets are popular because of their good selectivity and relatively minimal environmental impact. The construction of the net, which consists of three layers with different mesh sizes, allows shrimp to be trapped effectively without damaging the bottom habitat of the waters.

Shrimp catching time also requires special consideration, and fishermen must understand the migration patterns and activities of shrimp, which are generally more active at night (nocturnal). The tidal factor also affects the success of the catch; where many fishermen choose to operate when the tide is approaching low tide because it is considered the optimal time to catch shrimp. Modern technology has greatly helped improve the efficiency of shrimp catching. GPS and fish finders help fishermen determine potential fishing ground locations. Some modern shrimp fishing vessels are also equipped with adequate cooling systems to maintain the quality of the catch, considering that shrimp is a commodity that is very susceptible to post-harvest quality decline; for this reason, it is vital to process shrimp into shrimp crackers (Kusuma & Santoso, 2023).

Making shrimp crackers is a series of food processing processes combining tapioca flour with fresh shrimp to produce crispy snacks with a distinctive flavor. This process involves several critical stages that must be carried out carefully to produce high-quality products. Shrimp crackers are one of Indonesia's traditional snacks that have a distinctive taste and are in demand by various groups. Making shrimp crackers begins with the preparation stage of raw materials, including tapioca flour, fresh shrimp, salt, sugar, and spices such as garlic and pepper. Fresh shrimp that have been cleaned are then mashed to form a paste. This shrimp paste is then mixed with tapioca flour and the prepared spices to form a dough that is smooth and easy to shape.

The ratio between tapioca flour and shrimp paste is critical in the dough mixing because it will affect the quality of the crackers produced. Generally, the ratio used is 70% tapioca flour and 30% shrimp paste. After the dough is mixed evenly, the next stage is to form the dough into a log or long roll with a diameter of about 5-7 cm. These logs are then steamed for approximately 1-2 hours until cooked and hardened. After the steaming process, the logs are cooled for 24 hours at room temperature to facilitate the cutting process. The cooled logs are then thinly sliced with a thickness of about 2-3 mm using a sharp knife or special cutting tool. These slices are then dried in direct sunlight for 1-2 days until completely dry. Proper drying is critical to produce crackers that expand perfectly when fried.

The final stage of making shrimp crackers is frying. Raw crackers are fried in hot oil at around 160-180°C until they expand perfectly and turn golden yellow. The proper frying process will produce crackers that are crispy, not oily, and have a strong shrimp flavor. The fried crackers are drained and packaged in airtight containers to maintain their crispiness. The quality of shrimp crackers is greatly influenced by several factors, such as the freshness of the raw materials, the accuracy of the formulation, the hygienic processing process, and good packaging. Innovation in making shrimp crackers continues to develop, from variations in shape and size to adding other ingredients to increase the nutritional value and taste of the product (Wahyono & Marzuki, 2023). One of the areas where the fishing community carries out shrimp cracker-making activities is Indragiri Hilir.

Indragiri Hilir is one of the Regency areas with extensive waters and abundant fishery production. The potential for capture fisheries in Indragiri Hilir Regency is very large. In 2021, the potential for capture fisheries was 53,057.13 tons. Several Districts in Indragiri Hilir have very large marine fisheries potential, including Tanah Merah, Concong, Mandah, Kuala Indragiri, Kateman, Sungai Batang, Reteh, Pulau Burung, Gaung Anak Serka, Gaung Districts. Tanah Merah District is one of the districts located on the coast of Indragiri Hilir, which has enormous potential in marine fisheries and public waters, with marine fisheries production of 8,855 tons and 3,331

tons in public waters in 2021. Tanah Merah District has several villages and sub-districts, including Tanah Merah Village, Tanjung Pasir, Tanjung Baru, Sungai Laut, Sungai Nyiur, Selat Nama, Tekulai Hilir, Tekulai Bugis, Tekulai Hulu and Kuala Enok Village (BPS Indragiri Hilir, 2022).

Tanah Merah Village, located in Tanah Merah District, is mainly inhabited by coastal communities who work as fishermen. Fishing communities generally live, grow and develop in coastal areas, namely transitional areas between land and sea, where most coastal communities directly or indirectly depend on their survival by managing marine resource potential (Bathara et al., 2012). The fishing communities in Tanah Merah Village are spread across three locations: Gang Seni, Kampung Laut and Sungai Menit. The people in Tanah Merah Village have a livelihood as fishermen, which is supported by the natural topographical conditions close to the coast (Hamzah et al., 2022).

The people of Tanah Merah Village generally work as fishermen, catching shrimp, fish, crabs, and other things. The catch is processed into products such as shrimp crackers, amplang crackers, salted fish, and dried shrimp. Shrimp from fishermen's catches use fishing gear such as sondong, beach seines and trawls. The types of shrimp caught by fishermen are swallow shrimp (*Penaeus indicus*), white shrimp (*P. merguensis*), yellow shrimp (*Panaeus* sp) and red shrimp (*P. indicus*). One of the main catches is swallow shrimp (*P. indicus*), which is used as raw material to make shrimp crackers. The shrimp cracker-making business in this village is included in the category of home industry, considering that the scale of production is still small in terms of production volume and the number of workers involved. Shrimp is purchased from fishermen at IDR33,000.00 / kg, while raw shrimp crackers are sold at prices ranging from IDR80,000.00 to 90,000.00 / kg. The processed shrimp crackers are marketed in regions such as Irian Jaya, Batam, Pekanbaru, Palembang and Java. Based on exposure to conditions like this, this study aims to determine the shrimp cracker manufacturing business process in Indragiri Hilir.

2. Materials and Methods

2.1. Time and Place

This research was conducted in 2024 in Indragiri Hilir based on the consideration that Indragiri Hilir is one of the Regency areas with extensive waters and abundant fishery production. The potential for capture fisheries in Indragiri Hilir Regency is very large. In 2021, the potential for capture fisheries was 53,057.13 tons, one of which was shrimp commodities processed into crackers.

2.2. Methods

The data in the study were obtained from Tanah Merah village, and in this study, the method used was a survey method with a qualitative approach. Rahardjo & Sutrisno (2024) explained that the qualitative approach is a research method that focuses on an in-depth understanding of social phenomena, human experiences, and the meanings contained in a particular context. This method has unique characteristics where the researcher is the main instrument in data collection and analysis, emphasizing rich descriptions and in-depth interpretations. In its implementation, qualitative research uses various data collection techniques such as in-depth interviews, participant observation, focus group discussions (FGD), and document analysis. This approach allows researchers to explore information in detail and understand participants' perspectives in their natural context. The uniqueness of the qualitative approach lies in its ability to reveal nuances, hidden meanings, and complexities of human experience that are difficult to measure quantitatively.

2.3. Data Analysis

Data analysis in qualitative research is a systematic yet flexible process involving coding, categorizing, and interpreting data to find meaningful patterns and themes. This process is iterative, with researchers continually moving between data collection and analysis to ensure a deep and comprehensive understanding of the phenomenon being studied. Data validity in qualitative research is maintained through various techniques such as triangulation (source, method, and theory), member checking, and peer debriefing. This is important to ensure the credibility and trustworthiness of the research findings. Qualitative researchers must also practice reflexivity, which is an awareness of their position and influence on the research process. The paradigms underlying qualitative research, such as constructivism and interpretivism, recognize that social reality is pluralistic and socially constructed. This approach is especially appropriate for research that aims to understand subjective experiences, cultural meanings, social dynamics, and complex processes in human life.

3. Result and Discussion

Tanah Merah Village is one of the villages in Tanah Merah District, Indragiri Hilir Regency, Riau Province. Tanah Merah Village is located at coordinates between 103°20'20" East Longitude 103°25'25" West Longitude and 0°24'25" North - 0°29'30" South Latitude. Tanah Merah Village is 2 km from the capital of Tanah Merah District, which can be reached by land transportation, 50 km from the capital of Indragiri Hilir Regency, which can be reached by sea transportation in the form of a speedboat, 165 km from the capital of Riau Province by land

transportation. Tanah Merah Village is directly adjacent to Tanjung Pasir Village, Tanjung Baru Village to the North, Tanjung Pasir Village to the East, Kuala Enok Village to the South, and Nyiur, Selat Nama Village, Tanjung Baru Village to the West. Tanah Merah Village has an area of 136.93 km² and is at an altitude of between 5-7 meters above sea level. The climate in Tanah Merah Village is classified as a tropical climate, with clear seasons, namely the rainy and dry seasons. The average temperature in this village is 25°C, with an average rainfall occurring for 3 months a year. Tanah Merah Village has muddy beaches and mangrove ecosystems. The forest area in this village reaches 5,500 ha, with a swamp area of 843 ha and a coastline length of 15 km. The population in Tanah Merah Village is 11,670 people with an area of 136.93 km². Based on the data above, it can be seen that the population density in Tanah Merah Village is 11,670 people / 136.93 km² = 85.22 people / km²; this figure illustrates that for every 1 km² of land in Tanah Merah Village, there are 85 people.

Shrimp crackers are processed seafood products, especially shrimp, that are made into snacks. The abundant seafood is consumed personally by fishermen and sold to residents. The abundance of shrimp in this village encourages the residents of Tanah Merah Village to process it into crackers. The driving factors for developing shrimp cracker businesses in this area are: a) Economic needs: Many villagers start shrimp cracker businesses because of economic needs. This business offers an opportunity to increase family income through abundant natural resources. b) Public demand: Since the start of the shrimp cracker business, public interest in this snack has continued to increase. The high public demand has encouraged residents to take this business seriously and increase consumer awareness of the product's health benefits. This creates a profitable business opportunity for local entrepreneurs; c) Hereditary business heritage: The shrimp cracker home industry in Tanah Merah Village is a hereditary business that has been established since 2000 until now. The sustainability of this business shows the stability and consumer trust in the products produced.

The human resources employed in the production of shrimp crackers in Tanah Merah village consist of 1-2 mothers. This job field provides additional income for workers in the form of wages. Shrimp cracker production is carried out thrice a week, on Monday, Wednesday, and Friday. Production working hours last 6 hours a day, from 06.00 WIB to 12.00 WIB. The wages given to workers are IDR50,000.00 per operational work day (HOK). The external factors that influence the manufacture of shrimp crackers in this area are: a) Availability of raw materials. If shrimp is difficult to obtain, shrimp cracker entrepreneurs usually build cooperation with shrimp fishermen to guarantee supply and increase sustainability. b) Fluctuating raw material prices, namely by managing large quantities of raw material stock, cracker prices are adjusted to changes in raw material costs and supplier diversification to get competitive prices and reduce supply risks. c) Weather: If the weather is not supportive during the cracker drying process, the drying process is moved indoors and can be equipped with a heater or fan. d) Consumer demand: if consumer demand increases but cracker stocks are running low, then entrepreneurs must ensure that the supply of raw materials is sufficient by building cooperation with raw material suppliers, prioritizing orders from regular customers if cracker stocks are limited, communicating with customers by informing them of the estimated delivery time to maintain trust.

Shrimp crackers from Tanah Merah Village have been marketed to regions including Irian Jaya, Batam, Pekanbaru, Palembang, and Java. The shrimp cracker processing business development in Tanah Merah Village not only increases the local community's livelihood but also contributes to reducing unemployment in the area. Based on field observations, the crackers in Tanah Merah Village, Tanah Merah District, are based on the field.

The preparation stage for making crackers is preparing raw materials like shrimp, tapioca flour, garlic, ice cubes, salt, eggs, and flavourings. In the first stage, shrimp from the catch of fishermen in Tanah Merah village, which is a type of swallow shrimp, are washed and cleaned, and then the shrimp meat is separated from the skin and head using a knife. The shrimp meat is collected in a basin, ground in a meat grinder machine, namely a chopper, and then weighed to adjust to the composition of the cracker dough as well. Tapioca flour and other supporting ingredients are weighed based on the composition.

Cracker dough is made by mixing the main ingredients, namely shrimp and flour, with additional ingredients such as garlic, eggs, ice cubes, salt, and flavourings. The dough is stirred by hand so it is mixed more evenly, then kneaded until it becomes non-sticky. After being evenly distributed, the dough is divided into several parts. These parts are then formed into bar-shaped crackers. After the dough is formed, it is arranged into a tray of stainless steel prepared to be steamed. The dough formed into a bar shape is then arranged into a steamer for steaming. Steaming is done using a steamer, then steamed for 150 minutes using a gas stove. After steaming, the cooked dough is placed on a rack first to be cooled at room temperature for 30 minutes, then put in the refrigerator for 8 hours so that the bar-shaped dough becomes solid/hard and is easy to cut/slice. Cutting or slicing is done in the morning from 07.30 to 08.00 WIB, but it can change depending on the number of crackers sliced. Slicing crackers uses a manual cutting tool, namely a knife. The selection of the slicing time in the morning so that the sliced crackers can be dried directly in the morning until the afternoon. The wet cracker pieces from the slices are placed in a large bucket before drying. Drying of crackers is done in direct sunlight. Drying is done by arranging the cracker pieces on a drying rack. Then, the drying rack is placed on the field at 09.00 WIB to 15.00 WIB for 2 days until the shrimp crackers are dry.

The dried crackers are sorted during packaging. Crackers of good quality do not have many holes and are in good shape; they are not broken or crushed. Furthermore, the crackers are packed in plastic weighing 500 g and

labelled with the brand name, composition, and address. The results of the study are in line with the results of the study by [Pratama et al. \(2023\)](#), which stated that the shrimp cracker industry has developed into an economic center capable of absorbing local workers up to 45% of the productive age population in the region and is reinforced by the findings of [Rahmawati & Susilowati \(2024\)](#) which recorded the growth of shrimp cracker exports reaching 30% per year with a market reach reaching Malaysia, Singapore, and Brunei Darussalam. Then supported by [Widodo & Kusnandar \(2023\)](#), who revealed that the development of the shrimp cracker business has created a multiplier effect in the local economy, where each shrimp cracker business unit can absorb an average of 5-7 workers and create derivative business opportunities such as suppliers of raw materials, grinding services, and distribution.

Meanwhile, a study conducted by [Nugroho & Handayani \(2024\)](#) proved that the shrimp cracker industry contributed to reducing poverty by 12% through job creation and increasing the income of coastal communities. This is also supported by research by [Santoso et al. \(2023\)](#), which shows that the development of the shrimp cracker industry has encouraged the formation of integrated industrial clusters, from shrimp cultivation processing to marketing. This integration is not only to increase production efficiency but also to strengthen product competitiveness in national and international markets.

4. Conclusions

Based on the results obtained from this study, it can be concluded that the shrimp cracker manufacturing business in Indragiri Hilir, precisely in Tanah Merah Village, starts from the preparation, processing, and packaging stages. Shrimp crackers have been marketed to regions including Irian Jaya, Batam, Pekanbaru, Palembang, and Java. The development of shrimp cracker processing businesses not only increases the livelihoods of local people but also contributes to reducing unemployment in the area.

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