

EMPOWERING BAWEAN ISLAND COASTAL COMMUNITIES THROUGH FISH CRACKERS PRODUCT BRANDING AND MARKETING

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ABSTRACT

Bawean Island is included in the extraterritorial area of Gresik Regency, which has large natural resources in both the fisheries and agricultural sectors. If properly managed, this circumstance has the potential to lead to regional economic development. Accelerating economic activity, particularly in Bawean Island's coastal regions, can be done by developing downstream products and creating an integrated marketing model. The objective of this community service project is to support the growth and marketing of SMEs processed fish products in Dayasungai Hamlet, Sungairujing Village, Sangkapura District, and Bawean Regency as a strategic step in boosting the regional economy of coastal communities. Dayasungai Hamlet is home to 45 families, 90% of which make fish crackers. The potential of fish cracker products to penetrate wider marketing areas has been hampered by their simple packaging and scant information. Training in GMP, business and financial management, product development and packaging, and digital marketing can enhance community knowledge and boost the desire to implement business management practices, achieving an average score of 90%. Product rebranding results in comprehensive information and a better product identity, which makes it more likely to be positively received by consumers showed by product sales increase average of 154.7% per month.

Keywords: Fish Crackers, Marketing, Product downstreaming, Regional Development

INTRODUCTION

Bawean Island is located in the middle of the Java Sea, 150 km from the city of Gresik, East Java. This island, which is a part of Gresik Regency, is quite small. There are two sub-districts on Bawean Island: Tambak and Sangkapura. Geographically speaking, Bawean Island is made up of 99 mountains, and the vast majority of the land is still undeveloped forest. Small communities can be found all across the island along the major road that circles it. There are 300 villages in all, 17 of which are in Sangkapura District and 13 of which are in Tambak District (BPS Kabupaten Gresik, 2022).

On Bawean Island, the majority of the population engages in occupations such as farming, fishing, and trading. Agriculture plays a pivotal role in the island's economy, with farming being the primary activity. It is worth noting that agricultural practices on Bawean Island predominantly focus on a single harvest cycle (Armono et al., 2020; Trimanto et al., 2016). While there are farmers who possess knowledge about superior

seeds, only a small portion of the land is cultivated for two harvests. Interestingly, most farmers do not exhibit a strong inclination towards increasing their yields or expanding their trading activities beyond the island's boundaries. Instead, their agricultural production is primarily geared towards meeting their own personal needs and those of their families (Wardani et al., 2017).

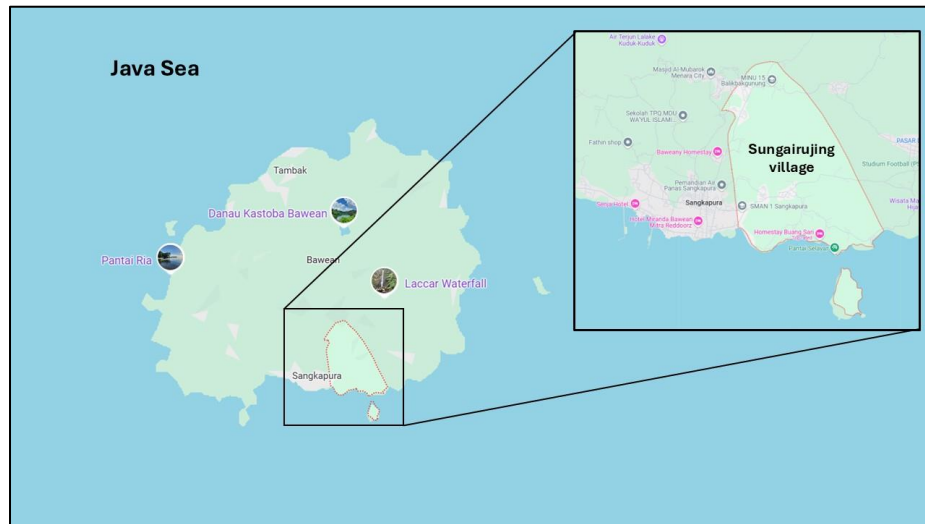


Figure 1. Location map of Sungairujing Village, Bawean Island

Bawean Island, known for its abundance of natural resources, is particularly rich in sea fish, which serves as a valuable product for the local community. To make a livelihood from this resource, there is a limited three-month fishing season, with the peak period being from August to October (Wardani et al., 2017). However, beyond this period, fishing becomes more challenging due to the heightened sea waves, which makes it difficult to capture a significant quantity of fish. The adverse conditions during this time pose obstacles to fishermen seeking to obtain plentiful fish products (Leake, R, S, 2009).

Various types of catch can be found in the fishing grounds around Bawean Island, including tuna, snapper, anchovies, squid, tripang, crab, and lobster. During the fishing season, these marine treasures are plentiful and available at affordable prices, allowing locals and visitors to enjoy a delicious seafood feast. However, outside of the fishing season, the price of fish skyrockets due to limited availability. To sustain their livelihoods, Bawean fishermen primarily sell their catch on the island itself, showcasing their fresh bounty at village markets and specific selling points (Azizah et al., 2023; Wahyu Hati & Syarifah, 2023; Wardani et al., 2017). Additionally, they also establish trade relationships with collectors located on mainland Java, ensuring that their precious catch reaches a wider consumer base.

Dayasungai Hamlet, located in Sungairujing Village, stands out as a hub for fish cracker production. This hamlet predominantly consists of skilled cracker craftsmen, with most of the production activities being handled by dedicated women (Adi Cakranegara et al., 2022; Bhukuth et al., 2019). On the other hand, the local men primarily earn their livelihoods through fishing. The fish cracker products originating from Dayasungai Hamlet have gained widespread recognition among consumers, particularly within the vicinity of Bawean Island, owing to their exceptional quality (Yaumi et al., 2024; Yunindyawati, 2023). Nevertheless, it is worth noting that the marketing efforts for these products remain confined to the boundaries of Bawean Island, limiting their reach to a

larger consumer base (Aminah et al., 2020; Safitri & Nurjannah, 2023). Therefore, it is necessary to develop and market products through strengthening identity, thus it can be more accepted by the wider market. Figure 1 show the mapping location of Sungarujing village where strategically nearby the capital of Sangkapura District.

METHOD OF IMPLEMENTATION

Community service activities have been carried out in the period 2022 – 2023. The respondents who were the target of the activity were the people of Dayasungai Hamlet, Sungairujing Village, Bawean Island who actively carry out the production of processed fish crackers. A survey approach, training with spatial materials, fieldwork, mentoring, in-depth interviews or conversations, and a literature study were all used in this activity. These methods were utilized to be able to take pictures, identify, and create models that may be applied to helping handle issues of target partners in Dayasungai Hamlet, Sungairujing Village, Sangkapura District, Bawean Island - Gresik Regency. The strategic steps for Community Service were carried out in several stages (Figure 2).

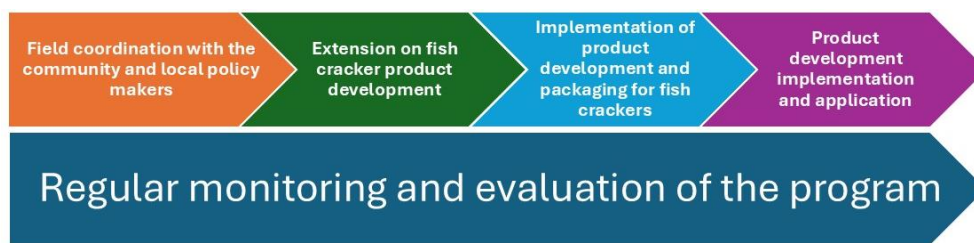


Figure 2. The Strategic Steps For Community Service

Collaboration with the community and policymakers took place to collect data on the challenges faced by target partners, oversee permits, and involve Dayasungai Hamlet. A follow-up survey pinpointed appropriate sites for integrating science and technology into every household. The initiative aims to create processed fish cracker products and enhance packaging by engaging women in Dayasungai Hamlet, all while following health protocol. The program was carried out over 10 months, during which socialization, implementation, and community outreach activities were conducted regularly, along with providing support to residents facing challenges in the application process of the program. Periodic monitoring and evaluation were conducted at each phase of the program to assess its success and sustainability levels. Monitoring was performed both online and offline. The assessment involved observing business process activities and the effects in the community after implementation.

RESULTS AND DISCUSSION

Preliminary Condition Analysis

In general, the livelihood of the residents of Dayasungai Hamlet is fish cracker craftsmen. Of the 45 family heads, 90% produce fish cracker products in their respective homes without any standardization. This condition causes product quality to differ between manufacturers. The production process is generally carried out in a separate kitchen from the home kitchen which is used specifically to produce fish cracker products (Figure 3.a). Apart from that, each producer does not yet have a product distribution

permit for SPP-IRT (Food Production Certificate - Home Industry) by Indonesian government due to limited information and knowledge. The resulting product packaging is very simple with limited label information.

Each factory can currently only make 3–5 kg of fish cracker products per day on average. The production process is carried out using simple technology and utilizes sand for the cooking process (Figure 3.b). Besides that, firewood is still used as fuel in the production process (Figure 3.c) (Prasetyowati, et. al., 2019). The accessibility of nearby producers' raw materials is impacted by capacity restrictions. Since Dayasungai Hamlet is located on Bawean Island, which is distinct from Java Island, there are very few non-fish ingredients available, and prices are frequently fluctuating. Due to this, producers are forced to make goods in limited quantities and at a premium. Typically, the cracker items manufactured are offered to the local Bawean Island populations or sold in gift stores near the harbor.

Socialization of Business Institutional Development and Business Licensing

Standardizing industrial business procedures that are still carried out on a domestic scale can be accomplished through formal institutional development. The institution proposed to be addressed by fish cracker craftsmen is the Micro/Joint Business Group (Agusetyaningrum, et. al. 2016; (Kasman et al., 2023; Usulu et al., 2023)). Absence of a business group can have several detrimental effects, including: (a) market access that customers cannot access, (b) insufficient product identity (branding) to compete in the market, (c) a limited number of permits available to business owners, and (d) limitations imposed by the firm on the analysis of finances and management. Figure 3.d illustrates the socialization and preparation of business group institutional documents with fish cracker producer. It will be simpler for entrepreneurs to access markets, capital, licenses, and better business management by adopting institutional adjustments. A business group must complete several administrative requirements in order to become legally able to conduct business, including (a) creating an organizational structure that is recognized by the local government, (b) formulating and submitting a proposal for the formation of a business group, and (c) submitting supporting funds for managerial training or equipment.



(a)



(b)



(c)

(d)

Figure 3. Bawean Island’s Fish Cracker (A). Conventionally Fish Cracker Production Process, Sand Media For Cooking (B) And Use Of Firewood As Fuel (C), And Socialization And Preparation Of Business Group Institutional Documents (D).

Non-Formal Business Institutional Development is carried out through the Micro Enterprises and Cooperatives Development Program by Cooperatives, Industry and Trade Department (DISKOPERINDAG), Gresik Regency. Apart from that, registration of business group trademarks was carried out through the Industrial Sector, Gresik Regency. The trademarks used for the cracker product is “Kerupuk Ikan Daya Sungai”. To oversee the sustainability of program implementation, intensive coordination was carried out with the hamlet head, the Tourism Office and the Economic Department of Sangkapura District. Efforts to strengthen institutional management and financial management were carried out by applying for funding assistance and assistance through the Center for Testing the Application of Marine and Fishery Products (BBP3KP) Business Incubation program of the Ministry of Maritime Affairs and Fisheries.

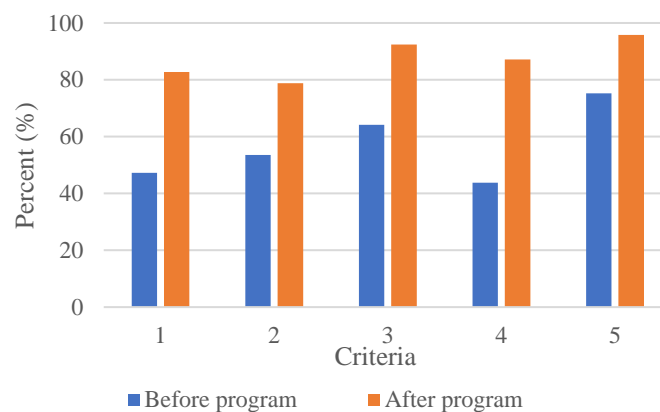


Figure 4. Impact of program implementation

After analyzing the business and financial management practices of the Joint Business Group, it was observed that there was a steady improvement in management, which involved establishing a business structure, assigning work duties, setting business goals like production capacity and sales figures, and managing product marketing through social media. Furthermore, there is a rise in the general awareness and comprehension of

business administration. According to a survey of participants conducted prior to engaging in community service activities, less than 40% valued knowledge and expertise in business management application. After putting the program into effect, the average score exceeded 90%. The results of the impact assessment of program implementation are depicted in Figure 4, which consist of parameters including: (1) Knowledge of Good Manufacturing Practices (GMP); (2) Understanding of business and financial management; (3) Understanding of product development and packaging; (4) Understanding of Digital Marketing; and (5) Desire to implement business management.

Standardization of Production Processes and Products

In addition to the business management enhancements carried out by business groups, production process standardization is used to improve products. The steps involved in creating fish crackers are ingredient preparation, ingredient mixing, dough preparation, steaming, drying, cutting, and packaging. Stages of the production process are standardized by carrying out the following steps (Ghazali, et al., 2021; Sandrasari et al., 2018):

1. **Material preparation:** It is essential to guarantee that the raw materials used in the manufacturing of Fish Crackers are in the best possible shape and uphold the highest standards of quality.
2. **Mixing Ingredients and Dough:** The components are combined until they are evenly distributed and meet the requirements for quality and quantity of the formulation. Manual mixing can be carried out while wearing gloves. A mixer or mixing machine can also be used in addition to those methods.
3. **Cooking:** Sap is cooked to mature the dough and eradicate pathogens. Cook the dough until it is completely done, which may be distinguished by the shiny appearance of the dough's entire surface. Cooking occurs at a temperature of 110°C and takes 1-2 hours.
4. **Drying:** The cooked dough is then exposed to the sun for a period of time to dry off the top and reduce the product's moisture content to 10% or less. The goal of drying is to lower the material's water content so that the packed good is more resilient.
5. **Cutting:** After further drying to bring the product's moisture level down to 5%, the dried product is next cut crosswise with a thickness of 1-2 mm.
6. **Packaging:** Standing pouches that have been tagged with the necessary information are used to package fish crackers.



Figure 5. Fish Cracker Packaging Development

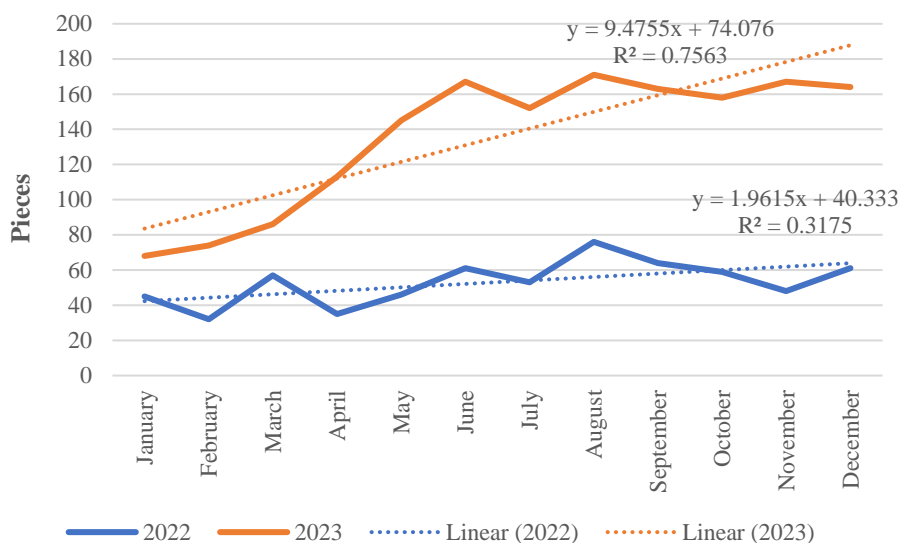


Figure 6. Sales Performance

A good production process manual/Good Manufacturing Practices (GMP) and Standard Sanitation Operational Procedure (SSOP) were also developed in addition to standardizing the production process. The manual was used as a resource for company quality management to ensure product quality (Gabriel et al., 2023). Enhancing product packaging also contributes to brand improvement by raising consumer awareness of the product (Zekiri, et. al., 2015; Mudra, 2010). Figure 5 shows the packaging development design for fish cracker products. Label information on the packaging includes the product name, composition, production date, manufacturer's name, presentation and use recommendations, product net, trade number (P-IRT), and information about the product (Suprpto & Azizi, 2020; Helida, 2015). Figure 6 illustrates how enhancements in management and product innovation have influenced the marketing performance of fish cracker products. The graph shows variations in product sales per month, with a trend towards higher sales in 2023 compared to sales in 2022, in average 53 and 135 pieces, respectively.

CONCLUSIONS AND SUGGESTIONS

Based on the outcomes of the activities, several conclusions have been reached, including: 1) Improving business management through strengthening business institutions can be used to carry out economic development of the Dayasungai Hamlet community; 2) Improving and standardizing the Fish Cracker production process must be implemented to ensure the quality of products produced by the community; and 3) Improvements to packaging design and labeling must be implemented to strengthen the brand image of the Fish Cracker products produced. It is essential to promote community economic development by sustainably utilizing local wisdom. This will require involvement from various parties such as the village government, the Tourism Office of Bawean Island, and the Industry, Trade and Cooperatives Office of Gresik Regency to help with licensing and marketing of community-produced goods.

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