



## Business Development Strategy of Flower Crab Fishermen Family in Coastal Pangkep Regency

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### ABSTRACT

This study aims to identify the real problems experienced by flower crab fishermen so that a crab business development strategy based on fishing families (home industry) will be obtained on the coast of Pangkep Regency. This study uses descriptive analysis. The sampling technique in this research uses a purposive sampling technique. The research data was collected by observation and interview methods, then analyzed using SWOT analysis through several stages including: identification of each SWOT variable, formulation of alternative strategies using the SWOT matrix, and formulation for decision making on the chosen strategy. The results showed that the family business development strategies for flower crab fishing families were: (1) product quality improvement through human resource development, product diversification, and the creation of a healthy and good market; (2) increasing production capacity by expanding market share; (3) development of partnerships and networks in the context of developing small-scale crab processing businesses; and (4) development of crab processing technology infrastructure

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## INTRODUCTION

Indonesia possesses vast coastal and marine areas, making them a primary source of livelihood for coastal communities. These regions hold tremendous potential in terms of natural resources and environmental services. Fisheries represent a major economic activity, contributing to improved community welfare through the utilization of fish and other valuable marine organisms. As an archipelagic nation with 5.8 million km<sup>2</sup> of ocean territory, Indonesia holds immense marine wealth, particularly in the fisheries sector. This potential is expected to support economic growth in coastal areas.

Indonesia's coastal regions are rich in natural resources and breathtaking environmental beauty. With over 17,000 islands and an extensive coastline, Indonesia boasts diverse coastal ecosystems, including mangrove forests, coral reefs, and seagrass beds. These areas are not only visually captivating but also serve as vital centers of economic activity, including fisheries, tourism, and trade. Most communities in these regions rely heavily on the sea for their livelihood, primarily working as fishermen or in related fisheries sectors.

One of the coastal areas with high potential in South Sulawesi is Pangkep Regency. It consists of island clusters with a coastline and marine area significantly larger than its land area, with a land-to-sea ratio of 1:17. The regency includes 117 islands, 80 of which are inhabited, with marine waters covering 264.15 km<sup>2</sup> and a coastline stretching 250 km (BPS, 2018; Directorate General of Marine Spatial Management, 2019; DKP Pangkep, 2011). These factors support the development of the fisheries sector, including the blue swimming crab (*Portunus pelagicus*), which has become one of the region's key export commodities.

Blue swimming crab is a high-value fishery commodity, exported to countries such as Singapore, Hong Kong, Japan, Malaysia, Taiwan, and the United States. However, the selling price at the fisher level remains low. Therefore, a suitable business development strategy is needed to help fishers enhance the value of this commodity, particularly in coastal areas of Pangkep.

Field observations reveal that fishers generally sell only raw crab meat, which limits its economic value. It is necessary to develop business strategies focused on processed crab products to increase value-added, competitiveness, and regional branding. Moreover, although blue swimming crab is a rich source of protein, it has a short shelf life, requiring further processing into products such as shredded crab, crab crackers, ekado, crab sambal, and others.

Thus, developing the crab processing industry is essential to broaden market access and consumption. In South Sulawesi, particularly in Pangkep Regency, crab processing is typically conducted by small-scale household industries. These businesses face various challenges, including limited capital, technology, management skills, marketing reach, human resources, product quality, and packaging. Such constraints hinder the competitiveness of processed seafood products.

In light of these conditions, this study aims to formulate strategies for the development of small-scale crab enterprises among fisher families. The results

are expected to provide strategic recommendations for sustainable management of crab-based businesses in Pangkep Regency.

## LITERATURE REVIEW

### 1. *Small-Scale Capture Fisheries*

Small-scale capture fisheries, including the harvesting of blue swimming crab (*Portunus pelagicus*), are a primary source of livelihood for many coastal fishing families in Indonesia. These activities are generally carried out using traditional methods with limited capital and restricted access to technology, market information, and financial resources (Béné et al., 2007). Fishing households are particularly vulnerable to fluctuations in catch volume and selling prices, making it essential to develop adaptive strategies for their business sustainability.

### 2. *Characteristics of Household-Level Crab Businesses*

Blue swimming crab businesses at the household level are typically labor-intensive and family-based. Women in fishing families often play crucial roles in post-harvest activities such as boiling, peeling, sorting, and packaging crabs. Despite their significant contributions, these roles are frequently undocumented in official data (Fitriana & Stacey, 2012), leading to development policies that do not fully reflect the actual needs of fishing households.

### 3. *Challenges Faced by Crab-Fishing Households*

Crab-fishing households face several challenges, including limited access to capital, low financial literacy, weak organizational structures, and suboptimal use of post-harvest technology (Purwanti, Riani, & Utami, 2020). Unsustainable fishing practices, such as harvesting undersized crabs or egg-bearing females, further exacerbate resource degradation (Bailey & Sumaila, 2015), threatening long-term business sustainability and economic stability for these families.

### 4. *Business Development Strategies*

Developing the blue swimming crab business for fishing families requires an integrated approach across the production, processing, and marketing stages. Porter (1985) outlines competitive strategies that include product differentiation, cost efficiency, and market focus. In the context of crab-fishing households, these strategies can be applied as follows:

- Business diversification, such as developing value-added products like frozen crab meat or crab floss.
- Human resource development, through training in technical skills, entrepreneurship, and small-scale business management.
- Strengthening of fisher groups, to increase bargaining power and improve access to microfinance and partnerships (Kusnadi, 2002).
- Digital marketing adoption, using online platforms to expand product reach and promotion (Tata, Rahmadi, & Muslim, 2019).

### 5. *Strategic Planning Using SWOT Analysis*

The SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) approach is widely used to develop strategic business plans for fishing communities. This method helps identify internal and external factors systematically, allowing households to tailor strategies to their local conditions

(Rangkuti, 2019). SWOT-based strategies are particularly useful for promoting sustainable, inclusive, and adaptive business development for small-scale fishers.

## METHODOLOGY

This research was conducted in Pangkep Regency, South Sulawesi, with a focus on the coastal sub-districts that serve as key blue swimming crab centers: Ma'rang, Mandalle, Segeri, and Labakkang. A descriptive approach was used, and sampling was conducted through a non-probability technique (purposive sampling). Six fisher households engaged in crab-related activities were selected based on specific criteria.

Data collection methods included:

1. Direct observation of the activities and challenges faced by blue swimming crab fisher families.
2. Structured interviews using questionnaires to gather detailed information.
3. Literature review to examine relevant previous research findings.

The collected data were then selected and analyzed using the SWOT (Strengths, Weaknesses, Opportunities, Threats) method to develop appropriate business strategies. The analysis included identifying SWOT variables, formulating strategic alternatives, and selecting the most suitable strategies.

## RESULTS AND DISCUSSION

### *Site Description and Blue Swimming Crab Fisher Households*

Pangkajene and Islands Regency (Pangkep) is a key development area for blue swimming crab, integrated within the regional development agenda (RPJM). One of the priority areas for fishery development is Labakkang District, located approximately 55 km from Makassar. Pangkep is known as a major marine fish producer in South Sulawesi, with numerous islands and abundant marine resources.

About 65% of Pangkep's population relies on the fisheries sector for their livelihood, while the remainder are engaged in trade, small industries, and agriculture. The blue swimming crab trade has developed in island communities such as Salemo and Saugi, with Labakkang Fishing Port serving as the central marketing hub.

In the past three years (2020–2023), crab production has fluctuated due to low prices and declining fishing activity. Many fishers have shifted to catching other fish species or cultivating seaweed. During 2015–2020, program partners collaborated with fishers and collectors to supply crab meat, which was processed before being sold to exporters. However, since 2017, demand for crab meat has increased, while supply and quality have failed to meet export standards.

The ongoing PPPUD (Higher Education for Community Empowerment) program in Pangkep continues to use traditional processing methods and basic technologies. These limitations hinder the ability to meet export-quality standards and achieve sales targets. Support from various stakeholders, including the government, is necessary to develop small and medium-sized

enterprises (SMEs) in the crab sector, in line with national marine and fisheries development goals and to improve fisher welfare.

High demand for crab products has encouraged many fishers to return to the sea, hoping to support their households and finance their children's education. Business strategy development is therefore crucial to ensure sustainable income growth for fisher families.

The crab meat picking activities carried out by partner groups have added economic value, created jobs, and supported community empowerment programs. In addition to fresh meat, crabs can be processed into a variety of value-added products such as chips, soup, and crab cakes, which hold strong market potential.



Figure 1. Crab processing

Ma'rang sub-district is one of the settlements of crab fishermen and the place of the crab peeling process. The data and facts that have been summarised in the situation analysis are that the source of raw materials, in this case crab crab, is processed with facilities that are partly owned and also partly rented from partners with the fishing location is the waters of Pangkep Regency. From the aspect of meat production, there are a number of equipment used in the production process to produce crab meat, including gas stoves, crab cooking pots, baskets, scales, meat removal knives, peeling tables, work clothes, cutlery, raw material storage tanks and others. There are several types and qualities of crab meat produced as shown in Figure 2.



Figure 2. Type and Quality of Crab Meat

The handling of crab after being caught by fishermen is directly sold to collectors, some are steamed and then sold in the form of meat to partners, and there are fishermen who sell directly to partners in the form of ekoran. Crabs that are processed through collectors and then sold to partners are generally crab meat with poor quality conditions because some of the crab raw materials have been dead for a long time before the peeling process and also the processing method should be steamed so that there is no smoke odour contamination of the heated or steamed crab raw materials.

#### ***Business Development Strategy for Blue Swimming Crab (Rajungan)***

The research data was analyzed using SWOT analysis to determine appropriate business development strategies for families engaged in blue swimming crab fisheries. The SWOT implementation process consists of three main stages: (a) data and information identification to evaluate internal and external factors; (b) analysis through mapping the identified factors into a SWOT matrix; and (c) decision-making based on the previous stages. In general, SWOT illustrates how opportunities and threats can be addressed in alignment with existing strengths and weaknesses, leading to the formulation of anticipatory strategies and policies.

The business development strategy for blue swimming crab is formulated based on key issues identified in the study, taking into account internal strengths and weaknesses, as well as external opportunities and threats. The strategy outlines how to leverage strengths to take advantage of opportunities, overcome weaknesses that hinder opportunities, use strengths to face threats, and minimize weaknesses to reduce vulnerability to threats.

#### **Internal Factors:**

1. Strengths include: (a) the potential of Pangkep's marine resources; (b) the availability of crab fishing grounds; and (c) the existence of a market share.
2. Weaknesses include: (a) insufficient human resources; (b) limited capital; (c) small-scale business operations; (d) simple processing tools; (e) lack of technological innovation; and (f) absence of a business plan.

#### **External Factors:**

1. Opportunities include: (a) buyer loyalty to household or micro-scale products; (b) government support; (c) technological advancements; and (d) increasing public awareness of health and nutritional value of crab.
2. Threats include: (a) limited access to financial institutions; (b) seasonal availability of raw materials; (c) business competition; and (d) declining crab growth and reproduction rates.

#### **Alternative Development Strategies:**

1. SO Strategy (Strength-Opportunity): Using internal strengths to seize opportunities, such as maintaining and improving product quality through independent production processes, technological adoption, and partnerships with raw material suppliers.
2. WO Strategy (Weakness-Opportunity): Addressing weaknesses by maximizing opportunities, such as increasing production capacity, improving management, and expanding product distribution to modern markets like supermarkets and online marketplaces.

3. ST Strategy (Strength-Threat): Utilizing strengths to mitigate threats, such as maintaining strong relationships with suppliers and workers to ensure supply chain stability amid external challenges.
4. WT Strategy (Weakness-Threat): Reducing internal weaknesses while avoiding external threats by establishing partnerships with government agencies (e.g., Department of Marine and Fisheries) for support in funding, training, and infrastructure development. This includes developing processed crab products such as floss, crackers, crab-stuffed dumplings, crab sambal, and more.

The results of the SWOT analysis were used to formulate a business development strategy for crab fisher families, which can be summarised in Table 1 below.

Table 1. Results of SWOT Analysis of Crab Fishermen Family Business Development Strategy in Coastal Pangkajene Islands Regency

Internal Eksternal	<i>Strengths</i>	<i>Weaknesses</i>
<i>Opportunities</i>	<p>Implement a family system between leaders and employees to maintain harmonisation at work.</p> <p>Establish partnerships with suppliers of raw materials (crab cakes).</p> <p>Maintain continuity of raw material supply in times of scarcity, and quality of raw materials.</p>	<p>Increase production quantities and maximise production capacity.</p> <p>Improving production management, financial management, and human resources to increase market share.</p> <p>Expand product distribution network by expanding product market share to modern markets such as supermarkets and market places.</p>
	<p>Maintain and improve good relations and partnerships with raw material suppliers and all workers to strengthen solidarity in order to easily face any external threats.</p>	<p>Collaborate with the government (Department of Fisheries and Marine Affairs).</p> <p>Increasing knowledge about the crab business, how to deal with capital,</p>

<i>Treaths</i>		and other information that supports the sustainability of the crab business.  Creating a variety of processed products, such as making shredded crab, crab envelope crackers, crab ekado, crab chilli, and so on.
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## CONCLUSION

The results showed that the business development strategies of crab fisher families are: (1) improving product quality through human resource development, product diversification, and creating a healthy and good market; (2) increasing production capacity by expanding market share; (3) building partnerships and networks in order to develop household-scale crab processing businesses; and (4) developing crab processing technology infrastructure.

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