



The Development Strategy of Freshwater Lobster Business as a Coastal Economic Strengtheners

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Abstract. The cultivation of freshwater lobsters stands out as a promising alternative for fostering economic growth in the southern coastal region of Sulawesi Island. This research endeavors to scrutinize both the internal and external factors influencing the development of freshwater lobsters, aiming to identify key drivers for the growth of this industry. Employing the SWOT analysis method, which systematically evaluates strengths, weaknesses, opportunities, and threats, the study unveils a comprehensive understanding of the freshwater lobster development landscape. Through this analytical lens, eight alternative policies for freshwater lobster development emerge, providing a strategic framework for sustainable growth. Notably, the SWOT analysis underscores the substantial potential of the research location, deeming it well-suited for freshwater lobster cultivation. The findings not only illuminate the viability of freshwater lobster development but also pave the way for informed decision-making and policy formulation, laying the groundwork for leveraging this aquatic resource as a catalyst for economic prosperity in the southern coastal area of Sulawesi Island.

Keywords: coastal area, freshwater lobster, SWOT analysis, development strategy

1 Introduction

Coastal areas in the southern Sulawesi Island are mostly underdeveloped related to other areas in that island. This research would reveal an alternative strategy to increase the coastal economic productivity. The freshwater lobsters aquaculture can be a solution of to improve the income of the poor on the Bantaeng Regency.

Economic growth as a process of increasing output over time is an important indicator for measuring the success of a country's development [1]. Economic growth is a continuous increase in the production of goods and services in a country over a certain period of time. This reflects the rise in national income, prosperity and living standards of the population. Several factors that influence economic growth include investment, technological innovation, political and legal stability, population education level, access to natural resources, fiscal and monetary policies, and international trade.

Economic growth is often measured using Gross Domestic Product (GDP), which is the total value of goods and services produced in a country within a certain period of time. The economic growth rate is calculated by comparing GDP in a certain time period with the previous period. High economic growth can have positive impacts, such as increasing employment opportunities, reducing poverty, increasing people's income, and increasing general welfare. However, economic growth can also have negative impacts, such as greater income inequality, environmental imbalances and long-term sustainability risks. Government policies, including fiscal and monetary policies, can be used to encourage economic growth. Apart from that, investment in infrastructure, education, research and development, as well as potential economic sectors can also support sustainable economic growth.

Village economic growth is an important indicator in assessing the success of a region's development. In this context, developing local potential is crucial to encourage sustainable village economic growth. One potential that can be developed is the freshwater fisheries business.

The Freshwater Lobster, whose Latin name is *Cherax quadricarinatus*, is a lobster that was first discovered in Australia and New Guinea. *Cherax quadricarinatus* (red claw) has the highest economic value compared to other types of freshwater lobster that have been cultivated in Australia, such as marron (*Cherax tenuimanus*) and yabbie (*Cherax destructor*) [2,3]. The advantages of red claw include its growth speed which is much greater than other types of *Cherax* (it can reach a length of 30 cm and a weight of 500-600 grams), productivity per are and per year is greater, the proportion of meat is greater, the taste of the meat is better, higher environmental tolerance, relatively few disease problems, easy to sell live and shipped throughout the world, and the market is wide open [4].

The Bantaeng Regency, especially in the Bonto Salluang Village, is an area that has potential to be used as a location for developing freshwater lobster cultivation. As previously explained, for cultivating freshwater lobsters, river water is used and this is certainly suitable for Bonto Salluang Village because in this village the river stretches along the village. Moreover, in Bantaeng Regency, people who are cultivated freshwater lobsters is difficult to find, this could become a special attraction in the regency, especially in the Bonto Salluang Village in the future. freshwater lobster cultivation is an alternative to fulfill needs as food and ornamental fish. The economic growth of Bonto Salluang Village requires study of various aspects including the development of freshwater lobster hatcheries. It is important to note that economic growth does not only depend on the crayfish sector alone, but also involves various other factors, such as government policies, access to markets, and macroeconomic factors. However, developing freshwater lobsters as a driver of economic growth can make a significant contribution to Bonto Salluang Village and its community.

The development of freshwater lobsters has significant potential as a driver of economic growth in various aspects. First, increasing freshwater lobster production will have a positive impact on the fisheries sector. With increased production, there will be increased employment opportunities both in the fisheries sector itself and in related supply chains, such as seed farming, rearing farms, processing and marketing of

freshwater lobsters. This will help the people of Bonto Salluang Village reduce unemployment and encourage local economic growth.

Freshwater lobsters also generally have a higher selling value compared to conventional fish. This opens up opportunities for farmers or fisheries breeders to get better additional income. In this case, the development of freshwater lobsters can provide incentives for local communities to get involved in freshwater fisheries and improve their welfare.

The aim of this research is to analyze internal and external factors for the development of freshwater lobster hatcheries, in the southern Sulawesi Island, especially in the Bonto Salluang Village.

The development of coastal areas by the tourism activities do not affect the local economy. A high environmental value in South Sulawesi is related to the local economic growth [5]. Studies about the wisdom of fish farmers and fisher [6]. It reveals that fish farmers and fishermen conducted management practices, but they are weak in planning, institutional criteria, ecosystem and resources. Economic impacts have a strong influence over the social cultural impacts on the population of coastal area [7]. Planning on the coastal communities should be conducted to promote a sustainable development [8]. Studies about countries' coast lines [9]. It found that along with the coastline there are centralized business spaces and the backbone of countries' supply chains.

The fish-based income generation has a positive correlation with extended services, system of production, and universities [10]. Another study emphasizes on the integrated system of aquaculture and agriculture [11]. That system promotes efficiency and land expansion. It is noteworthy that private hatcheries can dominate fingerlings and control its prices [12]. Farmers have to create ponds, record the bookkeeping, and increase markets.

Turning attention to lobster breeding and production, the information availability of lobsters breeding and production which has made it easy to entrepreneurs to develop culture system and technologies of lobster production [13]. promotes the suitable diet for freshwater lobsters *Cherax quadricarinatus* [14]. Carrots can be given to support the growth of lobsters.

There are some constraints and possibilities of the fishery in Turkey [15]. The SWOT analysis is used to make a comparison between the internal and external factors that lie behind the fishery. Fisheries have an opportunity to be a leading sustainable business in the rural areas.

The hypothesis of this research is a development strategy can be arranged based on the views of the local community.

2 Methods

The research method is a scientific way to obtain and obtain data with specific purposes and uses. This research is research with a mixed method approach. A combined research method is a research method between quantitative methods and qualitative methods to be used together in a research activity so that data is obtained that is more

comprehensive, valid, realistic and objective [16]. The use of these two methods is considered to provide a more complex understanding of the research problem than using just one of them. In this research, quantitative data was obtained from distributing questionnaires and qualitative methods were used here to explain the results obtained from quantitative data.

This research was conducted in Bantaeng Regency, specifically in Bonto Salluang Village, Bissappu District, Bantaeng Regency. The research location was chosen with the consideration that Bonto Salluang Village is one of the villages whose tourism sector has great potential for development, one of which is the development of a tourism village based on the land fisheries subsector. The time period required for this research is around 3 months, namely from February to April 2023.

The type of data used in this research is primary data. Primary data is data obtained directly from respondents, for example information or information about the potential of the location or the opinions of the local community. This data was taken through distributing questionnaires and interviewing with sources related to the research. The sources who are the primary data sources in this research are those who know in depth about the potential of Bonto Salluang Village.

The analysis tool used is SWOT analysis. SWOT analysis is a strategic planning method used to evaluate strengths. Weaknesses, opportunities and threats that occur in a project or in a business venture, or evaluating one's own product lines or those of competitors. Robinson and Pearce suggest that SWOT analysis is a systematic way to identify factors and strategies that best describe the match between them [17]. This method is most often used as an evaluation method to find out what strategy to implement.

The SWOT analysis matrix can describe the opportunities and threats of the external research environment. This matrix will also make it easier to formulate various strategies that must be taken. Alternative strategies that will be taken must be directed at efforts to use strengths and improve weaknesses, take advantage of opportunities and overcome threats. In the end, 4 groups of alternative strategies will be obtained which are called S-O strategies, S-T strategies, W-O strategies, and W-T strategies. For more details, see the following table.

Table 1. The SWOT Analysis

<p>IFAS</p> <p>EFAS</p>	<p>Strengths (S)</p>	<p>Weakness (W)</p>
<p>Opportunities (O)</p>	<p><u>S-O Strategies</u></p>	<p><u>W-O Strategies</u></p>

Threats (T)	<u>S-T Strategies</u>	<u>W-T Strategies</u>
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3 Results and Discussion

The SWOT analysis goal is to combine the SWOT components into 4 categories strategies namely S-O strategies, W-O strategies, S-T strategies and W-T strategies. We compose them step by step. First, we identifies internal factors. The internal factors are consisted of strength and weakness. A strength is a competitive advantage found in the development of freshwater lobster in the Bonto Salluang Village. The following is a list of its strengths.

- The village has an abundant water resource.
- The village has a river stream.
- There is a waterfall as a tourist attraction.
- The availability of clean water is unlimited.

A weakness is obstacles that limit the development of strategies in developing the freshwater lobster. The following is a list of its weaknesses.

- The quality of local human resources is still lacking
- Promotional activities are still lacking
- The public funding is still lacking.

Second, we identifies external factors. The external factor is consisted of opportunity and threat. An opportunity is a favorable condition or anything that can minimize obstacles that will occur in the future. Opportunities come from outside the development of freshwater lobster in the Bonto Salluang Village. The following is a list of its opportunities.

- There is a role for village government in developing tourist villages where can help culinary businesses and lobster rearings grow.
- The role of the community in supporting the development of tourist villages.
- There are no competitors in freshwater lobster cultivation

A threat is a condition that can hinder or be an obstacle originating from outside in achieving the goal to develop freshwater lobster in the Bonto Salluang Village. The following is a list of its threats.

- Information regarding freshwater lobsters is still lacking.
- There is no collaboration with other cultivators.

After analyzing the strengths, weaknesses, opportunities and threats, alternative strategies will be obtained to be used in developing Freshwater Lobster as a driver of freshwater lobster business. Determining a suitable strategy for developing freshwater lobster cultivation is to create a SWOT matrix. Based on the SWOT matrix, four main strategies can be prepared, namely S-O, W-O, S-T and W-T. The strategy for developing the freshwater lobster business can be seen as follows.

The S-O Strategy is planned to use all strengths to take advantages of existing opportunities, which is described as follows.

- □ Establishing partnerships with culinary actors, restaurants and eateries to supply freshwater lobster. This aims to enable villages to expand markets and increase access to a wider range of consumers. Restaurants and eateries often have an established customer network and consistent demand, so they can be a promising market for crayfish products. Apart from that, partnerships with culinary actors, restaurants and eateries can also help in introducing freshwater lobster products from Bonto Salluang Village to a wider market. Restaurants and eateries often have a strong reputation and influence in the culinary industry, so they can be an effective means of promoting products and attracting consumer interest. By expanding markets, increasing sales, and introducing products to a wider range of consumers, this partnership can be a significant driver of village economic growth.
- □ Collaborating with the Government to expand the marketing network for freshwater lobsters. Collaboration with the government can provide many benefits in terms of expanding the market and increasing the accessibility of freshwater lobster products to potential consumers. Collaboration with the government can be an effective strategy in expanding the marketing network for freshwater lobsters in Bonto Salluang Village. Local governments usually have promotional programs and activities to promote local potential, including freshwater fishery products. By establishing cooperation, Bonto Salluang village can take advantage of promotional programs organized by the government to introduce freshwater lobster products to the wider community. This will help increase consumer awareness and interest in the product. Through promotional support, access to wider markets, assistance in infrastructure development, as well as supportive regulations and policies, villages can increase the marketing potential of these products and encourage overall village economic growth.

The W-O Strategy is planned to take advantages of opportunities to sell freshwater lobster products through e-commerce.

- Through the use of e-commerce, Bonto Salluang village can optimize opportunities for selling freshwater lobster products online, increase access to a wider market, and significantly support village economic growth. In utilizing e-commerce, the people of Bonto Salluang village need to consider several things, such as building or using an e-commerce platform that suits their needs, ensuring the quality and safety of packaging and delivery of products ordered online, and managing stock availability so they can face increasing demand. varies. Through the e-commerce platform, the Bonto Salluang village community can promote freshwater lobster products easily. Product photos, descriptions and related information can be presented attractively to potential buyers. Apart from that, villages can also build a strong brand (branding) through a consistent and attractive online appearance.
- Build cooperation with investors or banks to obtain additional capital. One strategy that can be implemented in developing freshwater lobster cultivation in Bonto Salluang Village is to build cooperation with investors or banks to obtain

additional capital. Through collaboration with investors or banks, Bonto Salluang Village can obtain additional capital needed to significantly develop freshwater lobster cultivation.

The S-T Strategy is composed and described as follows.

- Forming a freshwater lobster cultivation business group. By forming a freshwater lobster cultivation business group, you can optimize resources, knowledge and collaboration between group members. This will also strengthen their position in the market, improve operational efficiency and encourage overall village economic growth. Group members can work together on aspects of cultivation, such as procurement of seeds, feed, water management, maintenance and marketing. Apart from that, it is necessary to continue holding regular meetings to monitor business progress, discuss obstacles, and make joint decisions.
- Establishing a restaurant or culinary tour. Through this strategy, by establishing restaurants or culinary tours that feature freshwater lobsters as the main attraction, Bonto Salluang Village can explore the potential for local culinary tourism, attract tourists, and make a significant contribution to the village's economic growth. Until now, culinary tourism is quite popular among the community and of course this is very important in the development of freshwater lobster in Bonto Salluang Village.

The W-T Strategy is composed and described as follows.

- The Fisheries Service provides outreach regarding freshwater lobster cultivation to improve the quality of human resources. Through outreach conducted by the Fisheries Service, freshwater lobster farmers in Bonto Salluang Village will receive a better understanding of good cultivation practices, the latest technology, and other important aspects needed to improve the quality of human resources in the water lobster cultivation. Through outreach, freshwater lobster farmers will be provided with information about sustainable cultivation practices. Extension can provide information about correct handling techniques, such as choosing optimal seed size and age, methods of moving lobsters, and setting appropriate environmental conditions. With this understanding, freshwater lobster farmers can ensure optimal lobster health and quality throughout the cultivation cycle. Apart from that, extension services can introduce the latest technology and innovations in cultivating freshwater lobsters. This includes the use of sophisticated environmental monitoring and regulation systems, the use of high-quality feed, or the use of effective reproductive methods. By adopting the right technology and innovation, farmers can increase the efficiency and productivity of their businesses.
- Increasing the supply of freshwater lobsters and maintaining the quality of freshwater lobsters so that they are fresh and market demand remains high. Increasing freshwater lobster production by optimizing cultivation and maintenance. This includes selecting quality seeds, good feed management, effective disease control, and monitoring water quality and other environmental parameters. By consistently increasing production, the supply of freshwater crayfish can be increased. With adequate supply and quality products, market demand will remain high and the economic growth of Bonto Salluang Village can continue to in-

crease. Apart from increasing their own production, the Bonto Salluang village community can also collaborate with freshwater lobster farmers in other areas to obtain additional supplies. This can be done through partnerships or collaborative networks with other freshwater lobster farmers. By diversifying supply sources, cultivators can meet greater market demand.

For more details, see the following table.

Table 2. The Results of SWOT Analysis of Strategies

IFAS EFAS	Strengths (S)	Weakness (W)
Oppor- tunities (O)	<p style="text-align: center;"><u>The S-O Strategy</u></p> <ul style="list-style-type: none"> • Establish partnerships with culinary actors, restaurants and eateries to supply freshwater lobster. • Collaborating with the Government to expand the marketing network for freshwater lobsters. 	<p style="text-align: center;"><u>The W-O Strategy</u></p> <ul style="list-style-type: none"> • Taking advantage of opportunities to sell freshwater lobster products through e-commerce. • Build cooperation with investors or banks to obtain additional capital.
Threats (T)	<p style="text-align: center;"><u>The S-T Strategy</u></p> <ul style="list-style-type: none"> • Forming a freshwater lobster cultivation business group. • Establish a restaurant or culinary tour. 	<p style="text-align: center;"><u>The W-T Strategy</u></p> <ul style="list-style-type: none"> • The Fisheries Service provides outreach regarding freshwater lobster cultivation to improve the quality of human resources. • Increasing the supply of freshwater lobsters and maintaining the quality of freshwater lobsters so that they are fresh and market demand remains high.

Source: The result of analysis

Based on table 2 above, 8 alternative strategies were obtained for developing a freshwater lobsters business in Bonto Salluang Village. It is hoped that this alternative strategy can become a reference in developing a freshwater fisheries subsector in Bantaeng Regency of South Sulawesi Province.

4 Conclusion

Based on the research that has been carried out, conclusions can be drawn after analyzing the strengths, weaknesses, opportunities and threats for the development of freshwater lobsters in Bonto Salluang Village, 8 alternative strategies can be obtained that can be implemented. This research also shows that the village is an area with great potential for developing freshwater lobster cultivation as a driver of economic growth of Bantaeng Regency, one of the southern regions in Sulawesi Island.

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