

Development Strategy of Baung Fishing Business (Mystus Nemurus) in Labuhanbatu Selatan Regency

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Abstract - This research is analyze the internal and external factors that determine the development of baung fishing business in South Labuhanbatu regency and to determine the strategy of the development of baung fishing business in Labutanbatu Selatan Regency. The development strategy of baung fishing business in Labuhanbatu Selatan Regency is in quadrant IV (-0,36 and -0,90). By adding a limited amount of capital it can add equipment and catching fleets. By improving the socialization of the importance of technology, modern tools and working with capital support institutions can raise awareness of the importance of co-workers. By improving education and improving socialization on the importance of protecting the environment can improve fishery resources. By improving the capital can increase the promotion of baung fish as a pre-eminent commodity.

Keywords : Development Strategy, Baung Fishing Business, SWOT.

I. INTRODUCTION

The baung fish (*Mystus nemurus*) is the original fish of Indonesian fishery. Baung fish are only available in certain waters on the islands of Sumatra, Java and Kalimantan. One type of fish consumed by the people of Indonesia is baung fish. Where, in Sumatra baung fish found in North Sumatra, the waters of the river barumun in South Labuhanbatu regency. In South Labuhanbatu Regency baung fish is a

typical food and fruit hand (souvenir) from the area, for souvenirs smoked braung first called the fish sale. Shellfish is known as one of the important economical types of freshwater.

Potential of catch fishery in South Labuanbatu Regency has started to worrying phase; this can be seen from the number of baung fish production during the last 5 years in Table 1.1.

Table 1. Average Number of Baung Fish Production in Labuhanbatu Selatan Regency, 2016

No.	Year	Number of fish (ton)
1	2012	7,11 ton
2	2013	6,45 ton
3	2014	6,12 ton
4	2015	6,12 ton
5	2016	6,00 ton
Total		31,8 tons

Source: Department of Agriculture and Fisheries Labusel

Based on the data obtained by the development of baung fish in Labuhanbatu Selatan Regency from year to year has decreased continuously, can be seen from the natural potential in 2012 until 2014 has decreased, in 2014 and 2015 produksi baung fixed, but in 2016 has decreased again.

This is caused by several problems of environmental pollution. One of them is the disposal of factory waste directly to the river by companies located in the area. So that the fish populations along the river lane die until the saplings menghancurkan populations of fish baung the longer

the decrease. With the decline of the development of baung fish then automatically the income of fishermen in the area also decreased.

The development of fisheries currently directs the development of cultivated businesses, due to the reduced catch of the public waters, while the increasingly increasing market demand. Lately, public awareness of the importance of nutrition for families began to grow. the need for fish for the community is very important, it is very reasonable if the freshwater fishery business should continue to be encouraged to be developed (Murtidjo, 2005).

Jefri Research (2014) entitled The Strategy of Marketing Development of Rabbit Usahatarnak in Karo Regency by using SWOT analysis method The result of this research shows that the internal and external factors are the experience of farmer, feed source, agro-climate, institutional, usahatarnak scale, market opportunity, government policy, and community preference. The strategy developed is the use of the experience of farmers, feed sources, agro-climates, to increase production and meet demand.

Gultom Research (2014) which be entitled Strategy Development of Arabica Coffee Farming (Case Study: Tamba Dolok Village Sitiotio Subdistrict of Samosir Regency) by using SWOT analysis research method. The results of this study indicate that alternative strategy formulated in the framework of Arabica coffee farming development in research area is defensive strategy.

Nasution's (2011) research entitled Deli Tobacco Development Efforts PT.Perkebunan Nusantara II Helvetia Garden Unit Analytical methods used are descriptive method, income analysis, and SWOT Analysis. The results of this study indicate factors affecting tobacco production is the reduction of the amount of land, the more predictable climatic conditions, the decline in soil fertility and improper land management and the increasingly low labor. Deli tobacco farming income in research area experienced a loss of Rp.2.294.345 per hectare per planting season.

Research Alviza, (2013) entitled Analysis of Farming And Prospect Development Kopra. The method used is Paired T-test, R / C, Ratio, SWOT matrix. The income of copra farming is higher than the income of the coconut farm at a 95% confidence level. The value of t-count obtained is -4.094 while the t-table value of -1.80. This shows that the income of copra farming is higher than the income of coconut farming. The feasibility of R / C ratio is 1.33. Therefore, copra farming in the research area is feasible to

cultivate. The strategy of appropriate copra farming done in research area is intensive strategy that is in the form of product development.

Febriano Setyawan N.P. (2008) entitled Strawberry Agribusiness Development Strategy in Purbalingga District. The method used is analysis of internal and external factors of agribusiness, SWOT matrix, QSP matrix. The results showed that (1) the main strength in the development of strawberry agribusiness is good strawberry fruit quality and extensive marketing network. The main weakness is the relatively low human resources, the use of hereditary seeds and weak capital. Agribusiness development opportunity is a potential natural condition and plan of making of tourism area in Karangreja Subdistrict. While the threat to the development of agribusiness there is no industry that would be a partner and the disappointment of visitors agro-tourism strawberry garden. (2) Alternative strategies that can be applied in the development of strawberry agribusiness that is: increase education and teaching and capital through institutional. (3) Strategic priorities that can be applied in the development of strawberry agribusiness are: increase education and teaching and capital through institutional. (3) The strategic priority that can be applied in the development of strawberry agribusiness is to increase education and teaching as well as capital through institutional.

II. RESEARCH METHODS

The method used is SWOT Analysis. This analysis is used for strategic factors of baung both internal (strength, weakness) and external (opportunities, threats) in the current condition then try to adjust between the internal factors strength weakness with external factors of threat possibility.

The steps - steps in making SWOT matrix that is:

1. Phase data collection of external and internal factors evaluation
2. Phase determination (rating).

On each factor to be determined, which includes internal (strengths and weaknesses) or external (opportunities and threats). This stage can be done by giving a scale ranging from 4 (outstanding) to 1 (poor) based on the influence of these factors on the condition of the company concerned. Scoring scores for opportunity factors were scored 4 with very large category up to score 1 with very small category, and vice versa for threat score score. Meanwhile, for the power factor scored 1 with very small category up to 4 with very large category, and vice versa for the score score of weakness.

3. Stage weighting of each factor.

Having obtained the score of each factor, then weighted in each factor. This weighting is done using a pairwise comparison method developed by Thomas L. Saaty. The pairwise assessment scale is as follows:

Table 3.3. Value of Paired Appeal Scale

Scale Value	Defenition	Explanation
1	Both factors are equally important.	Two factors have the same effect on the goal to be achieved.
2	One factor is more important than the other.	Fewer judgments affect one factor than other factors.
3	An absolute factor is more important than any other factor.	This factor is more important than other factors.
The Opposite	If the above values are considered to compare between factors A and B, then the opposite value when used to compare the interests of B to A.	

Source : Saaty, 1988

4. Stage of making matrix

After obtaining the importance of each factor of each sample, then made an assessment matrix of each sample that will be the weight of each factor.

5. Looking for a geometric mean value

After obtaining the assessment of each factor of all samples, the next step is to find the mean of the comparison of all samples called geometric averages. The geometric-looking formulas are:

$$G = \sqrt[n]{X_1, X_2, X_3, \dots, X_n}$$

Where :

n = Number of respondents

X1 = Value for respondent 1

X2 = Value for respondent 2

X3 = Value for respondent 3

Xn = Value for respondent n

6. Normalization of geometric mean values

After being able to geometric mean values, then it is normalized to obtain the average value of each factor. Furthermore the average value will be the weight of strategic factors.

7. Making Strategy Matrix

By finding the difference between internal factors (strength-weakness) and extrinsic factors (opportunities-threats). The position of strategy is shown by cartesian coordinates (x, y). The value of x is obtained from the difference of internal factor (power-opportunity) and the value of y is obtained from the difference of external factor (threat possibility). internal strategy factors and external strategy factors that illustrate the external opportunities and threats faced with their strengths and weaknesses. The condition is mapped in the following manner:

- The horizontal axis (x) denotes strengths and weaknesses, while the vertical axis (y) represents opportunities and threats.
- The position of development strategy is determined with the following results:
 - If the opportunity is greater than the threat then the value $y > 0$ and vice versa is greater than chance then the value is $y < 0$.

- If the strength is greater than the weakness then the value $x > 0$ and vice versa is greater than the strength then the value $x < 0$.

III. RESULTS AND DISCUSSION

A. Result of Internal Factor Analysis of Baung Fishing Business

Tabel 4.6. Penentuan Skor Faktor Internal

No	Parameter	Rate Scores	Research result
1	Fisherman's experience	3	Strength
2	Have a regular customer	3	Strength
3	Age of fisherman	3	Strength
4	Asset	3	Weakness
5	Tool	3	Weakness
6	Mastery of technology	3	Weakness
7	Fishing education	3	Weakness

Source: Processed from Appendix 3

Based on Table 4.6, there are 7 (seven) internal factors in the development of baung fishing business in Labuhanbatu Selatan Regency: capture fisherman's experience, capital ownership, equipment ownership, technology mastery, permanent customers, fishing age and fishing education.

Internal factor of baung fishing business development strategy in Labuhanbatu Selatan Regency consists of strength and weakness. The strength factor of baung development strategy in Labuhanbatu Selatan Regency is having permanent customer, fisherman age and catching fisherman experience. Internal strategic factors which are included in the weakness of baung fishing business

The scores of score 4 and 3 on the internal factors of strength while for the weakness given the score 2 and 1. Table Internal strategic factors that become strengths and weaknesses in the development of baung fishing business in the research area can be seen in the following table:

development strategy in research area are capital, fisherman education, technology mastery, and tool.

B. Result of External Factor Analysis of Baung Fish Development Business

The scores of score 4 and 3 on the external factors that are opportunities while for the threat given the score of 2 and 1. Table of external strategic factors that become opportunities and threats in the development of baung fishing business in the research area can be seen in the following table:

Table 4.7. Determination of External Factor Score

No	Parameter	Rate Scores	Research result
1	Development of fisheries	3	opportunities
2	The selling price of baung fish	3	opportunities
3	Environmental pollution	3	Threat
4	Fisheries resources	3	Threat
5	Promotion	3	Threat
6	Fleet capture	3	Threat
7	Capital support institutions	3	Threat
8	Counselor (PPL)	3	Threat

Source: Processed from Appendix 3

Based on Table 4.7. There are 8 (eight) internal factors in the development of baung fishing business in Labuhanbatu Selatan Regency that is fishery development, promotion, environmental pollution, fish baung price,

fishery resources, fishing fleet, capital support institution and companion assistance (PPL).

The external factor of baung fishing business development strategy in Labuhanbatu Selatan Regency

consists of opportunities and threats. The opportunity factor of baung development strategy in Labuhanbatu Selatan Regency is fishery development, and the price of baung fish. Internal strategic factors which are included in the threat of baung fishing business development strategy in the research area are regional promotion, fishery resources, environmental pollution, fishing fleet, capital support institutions, and counterparts.

C. Internal and External Factor Evaluation Matrix

The results of identification of internal factors including strengths and weaknesses as well as external factors including opportunities and threats are arranged in IFAS and EFAS tables. Scores are given to each of the internal and external strategic factors to show how effectively respondents respond to strategic factors. The calculation of weighted scores of internal and external factors of the development of baung fishing business in Labuhanbatu Selatan Regency can be seen in the table below:

Table 4.8. Internal Strategy Factor Evaluation Matrix (IFAS)

No.	Internal factors	Weight	Score	Weight Score
Strength				
1	Fisherman's experience	0,25	3	0,68
2	Have a regular customer	0,11	3	0,35
3	Age of fisherman	0,08	3	0,22
	Number of Power Scores			1,25
weaknes				
4	Asset	0,16	3	0,44
5	Tool	0,19	3	0,59
6	Mastery of technology	0,14	3	0,38
7	Fishing education	0,07	3	0,20
	Number of Weakness Score			1,61
	Difference in Weakness-Strength Score			-0,36
TOTAL		1	20,19	2,87

Source: Processed from Appendix 10

Table 4.8 shows that the difference in total strength score with weakness is -0.36 ($x < 0$), Power score is 1.25 and weakness score is 1.61 which means weakness is greater than strength. which means that the weakness aspect is greater than the strength aspect in the development of baung fishing business in Labuhanbatu Selatan Regency. Furthermore, the most dominant strength factor is the

experience of catching fishermen with a value of 0.68 while the most dominant weakness is the education of fishermen with a value of 0.20.

The result of the calculation of external weighted score of the development of baung fishing business in Labuhanbatu Selatan Regency can be seen in the following table:

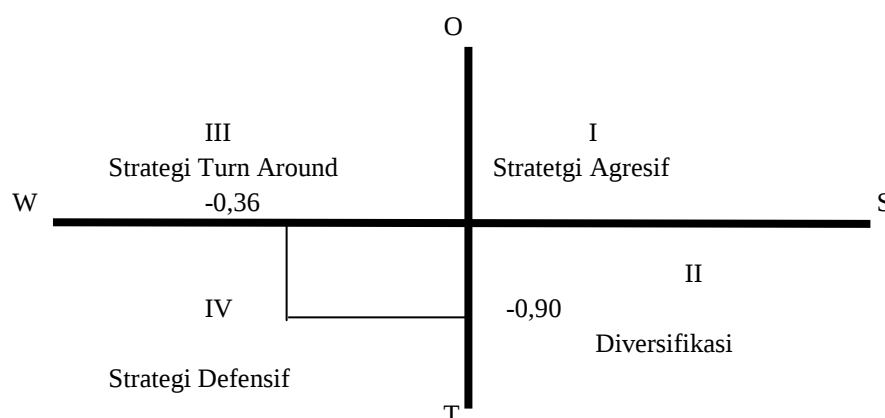
Table 4.9. External Strategy Factor Evaluation Matrix (EFAS)

No.	Internal factors	Weight	Score	Weight Score
Opportunity				
1	Development of fisheries	0,22	3	0,56
2	The selling price of baung fish	0,13	3	0,44
	Number of Opportunity Scores			1,00
Threat				
3	Environmental pollution	0,10	3	0,30
4	Fisheries resources	0,17	3	0,47
5	Promotion	0,15	3	0,42
6	Fleet capture	0,09	3	0,27
7	Capital support institutions	0,07	3	0,21

8	Counselor (PPL)	0,07	3	0,21
	Number of Threat Scores			1,90
	Opportunity Threat Scores Difference			-0,90
	TOTAL	1	24	2,90

Source: Processed from Appendix 11

Table 4.9 shows that the difference in total score of opportunities with threats is -0.90 ($X < 0$), with an opportunity score of 1.00 and a threat score of 1.90 which means greater than probability of chance. In other words, there are enough opportunity factors to support the development of baung fishing business in Labuhanbatu Selatan Regency. The most dominant opportunity is the development of fisheries with a value of 0.56 while the most dominant threat is the capital support institutions and companion with a value of 0.21.



From the result of internal-external matrix obtained from the value of total weighted score on the development strategy of baung fishing business in Labuhanbatu Selatan Regency obtained internal factor worth -0.36 which means this value is the difference between strength and weakness, where the weakness is greater than the strength. And for external factors, worth -0.90 which means this value is the difference between opportunities and threats, where the value of the threat is greater than the opportunity.

From the diagram obtained strategy of baung fishing business development in Labuhanbatu Selatan Regency is in quadrant IV (Defensive). This is a very unfortunate situation, the company is facing various internal threats and weaknesses. This strategy is based on defensive activities

D. Strategy Determination with SWOT Matrix

The development strategy of baung fishing business is done by making SWOT matrix. The SWOT matrix is built on internal (strength-weakness) and external factors (opportunities and threats). After calculating the weight of each internal and external factors then analyzed by using position matrix to see the position of baung fishing business development strategy in Labuhanbatu Selatan Regency. Based on the table value $Y > 0$ is -0.90 and the value of $X < 0$ is -0.36. The position of the coordinate point can be seen in the following cartesian coordinates:

and seeks to minimize existing weaknesses and avoid threats.

This is in accordance with research conducted Gultom (2014) showed that alternative strategies formulated in the framework of the development of farming is quadrant IV (defensive strategy)

The explanation of the above results from the data collection stage is again more specific, by creating an "analysis phase", which utilizes all the information into the strategy formulation model. The model is the SWOT Matrix, so that several categories that emerge are SO strategy, ST strategy, WO strategy, WT strategy can be obtained. SWOT matrix can be seen in table 16 below:

Table 4.10. Determination of Strategy of Baung Fishing Business Development in Labuhanbatu Selatan Regency

Internal External	Strength (S)	Weakness (W)
	1. 1. Fisherman's experience 2. 2. Have a regular customer 3. 3. Age of fisherman	1. Simple fishing gear 2. Capital owned is limited 3. Technological mastery is still low 4. Education of fishermen
Opportunity (O) 1. Development of fisheries as a pre-eminent commodity 2. High selling price of econimis	S.O 1. Utilizing the experience of fishermen can develop fisheries as a leading commodity (S1, O1) 2. Utilizing the productive age of fishermen can increase the regular customers so as to maintain the selling price of baung fish (S2, S3, O2)	W.O 1. Improving fishing equipment, capital and technology mastery and development of fisherman's education in increasing fishery development into commodities in Regency of Labuhanbatu Selatan (W1, W2, W3, O1). 2. Utilizing the economical selling price in the improvement of tools, capital, technology and education in order to achieve the development of fisheries into excellent commodities in South Labuhanbatu Regency (O1, W1, W2, W3, W4, W1).
Threat (T) 1. Limited fishery resources 2. Environmental Pollution 3. Promotion as a superior product 4. Fleet Arrest 5. Capital support institutions 6. Endanger power	S.T 1. Utilizing the experience and productive age they have can help in the absorption of information or knowledge provided by the counterpart so as to overcome the environmental pollution, and can develop fishery resources and facilitate in the promotion of fishery products (S1, S2, T6, T2, T1, T3) 2. Utilizing productive age, experience, and empowerment of capital support institutions to obtain fishing fleets and able to use them (S2, T5, T4) 3. Maintaining a regular customer can help expand the promotion through customers (W2, T3)	W.T 1. Adding a limited capital can add equipment and catching fleets (W2, W1, T4) 2. Improving the socialization of the importance of technology, modern tools and how to cooperate with capital support institutions can increase awareness of the importance of accompanying personnel (W1, W3, T5, T6) 3. Improving education and Improving socialization on the importance of protecting the environment can improve fishery resources (W4, T1, T2) 4. Improving capital can increase the promotion of baung fish as a pre-eminent commodity (W2, T3)

In Table 4.10 there are four possible strategies in the development of baung fishing business in South Labuhanbatu district. However, there is only one strategy used in the development of baung fishing business in Labuhanbatu Selatan Regency. The strategy used fits the known positions in the SWOT position matrix. The SWOT matrix position in the development of the baung fishing

business is in quadrant IV, where it is a very unfavorable situation, the company faces various internal threats and weaknesses. This strategy is based on defensive activities and seeks to minimize existing weaknesses and avoid threats.

The defensive strategy or WT strategy (weakness-treath) sees to use force to take advantage of opportunities, where

the strategies used in the development of baung fishing business in Labuhanbatu Selatan Regency are:

1. Adding limited capital can add equipment and catching fleets.
2. Increasing the socialization of the importance of technology, modern tools and how to cooperate with capital support institutions can increase awareness of the importance of co-workers.
3. Improving education and Improving socialization on the importance of maintaining the environment can improve fishery resources.
4. Improving capital can increase the promotion of baung fish as a pre-eminent commodity.

IV. CONCLUSION

Based on the results of the analysis and discussion conducted it can be concluded as follows:

- 1) Internal factor of baung fishing business development strategy in Labuhanbatu Selatan Regency that is strength consists of fisherman experience, have fixed customer and fisherman age. Weakness consists of capital, tools, technology mastery, and education of catch fishermen. External factors are the opportunity of fisheries development, and the price of baung fish. Threats consist of promotion, environmental pollution, fishery resources, fishing fleets, capital support institutions, escort personnel.
- 2) The development strategy of baung fishing business in Labuhanbatu Selatan Regency is in quadrant IV (-0,36 and -0,90). By increasing the limited capital can increase the equipment and fleet of arrests, increase the socialization of the importance of technology, modern tools can raise awareness of the importance of co-workers, increase the socialization of the importance of maintaining the environment can increase fishery resources and improve capital can increase the promotion of baung fish as a pre-eminent commodity.

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