



FEASIBILITY ANALYSIS OF SEAWEED (GRACILARIA SP) IN MUARA GEMBONG BEKASI DISTRICT

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ABSTRACT

This research aims to analyze the feasibility of seaweed business (*Gracilaria* sp) Pantai Mekar Village, Muara Gembong, Bekasi District, West Java. This research began in January 2019 until January 2020. The research method of survey method is the research carried out by taking samples from a population and using questionnaires as a primary data collection tool. The sampling technique used was snowball sampling by using the recommendations of the farmers to determine respondents in each marketing institution so that the total number of respondents was 18 people. Data analysis included marketing channel analysis and marketing efficiency analysis including business profit analysis, payback period,. The results showed that there were marketing channels and seaweed marketing institutions consisting of 10 farmers, 4 collectors, 4 large traders. The marketing institutions that have the highest level of efficiency are large traders with a BCR value of 2.16, with a business feasibility has a profit of IDR 261,923,125 in 1 year and has a payback period value of 0.17.

Keywords: Seaweed, Marketing, Pantai Mekar Village.

INTRODUCTION

Seaweed has recently become one of the main superior products in aquaculture in accordance with the program launched by the government in the context of increasing aquaculture production in 2010 to date. This is because seaweed is a commodity that has high competitiveness and has market potential both at home and abroad and abroad. Bekasi District is one of the mainstays of West Java that produces seaweed with a production of 7,000 tons

from a total of 10,000 tons of aquaculture from Bekasi District (80%) (Bekasi District PKP Service 2013). Seaweed cultivation in ponds is a new thing for the Muara Gembong community, this business is seen to have good opportunities and potential both in terms of land availability and market opportunities, but the seaweed cultivation business in Muara Gembong sub-district still has not attracted the interest of the wider community to do the business due to the limitations of farmers

accessing pricing and other market information (Deswati 2014). The definition of a feasibility study according to Jumingan (2009) is "a comprehensive assessment to assess the success of a project, and the project feasibility study has the aim of avoiding investment too large for activities that turn out to be unprofitable.". Marketing

METHODS

The research was conducted in Pantai Mekar Village, Muara Gembong, Bekasi District. The type of data used is primary data and secondary data. Primary data is done by conducting structured observations and interviews with a number of respondents based on a questionnaire that has been prepared previously. Valid for farmers, collectors and big traders. Secondary data in the form of seaweed statistical data from relevant government agencies. The method used is snowball sampling technique that is by using the recommendations of these farmers to determine respondents in each marketing institution so that the total number of respondents is 18 people.

Data Analysis Method

1. Profit Analysis

Analysis of business income aims to determine the benefits of a fishing business activity (Berlia et al 2017). Systematic analysis of business income in the

is a process of channeling products from producers to consumers so that marketing is the "spearhead" of economic activity in fisheries agribusiness (Mahyudin 2009). Marketing channels are interconnected between organizations involved in a process that makes products or services provided by customers (Nurhayati 2018).

development of aquaculture using the following formula:

$$\pi = TR - TC$$

Information :

π : Benefits

TR: Total Acceptance

TC: Total Expenditures

Business Criteria:

TR > TC then the business is profitable (feasible)

TR < TC, the business loss (not feasible)

TR = TC, then the effort is even (worth).

2. Benefit Cost Ratio Analysis

This analysis is carried out to determine the extent to which the results obtained from business activities during a certain period are quite profitable (Sugiarto et al 2005). The B / C ratio is stated in the formula as follows:

$$B/C \text{ Ratio} = \frac{TB}{TC}$$

Information :

B / C = Benefit Cost Ratio

TB = Total Revenue / Benefits (Rp / Year)

TC = Total Cost / Cost (Rp / year)

If the BCR value is less than one (BCR < 1) then the business is not feasible to run. If BCR is more than one (BCR > 1), the

business is feasible. If BCR is equal to one (BCR = 1) then the break-even effort.

3. Payback Period Analysis

Analysis of payback or payback period can be interpreted by the length of time required to return the investment costs that have been incurred by the company. The formula used (Riani 2013) is:

$$\text{Payback Period} = \frac{\text{Investment Amount}}{\text{Profit}}$$

RESULTS AND DISCUSSION

Characteristics of Respondents

Respondents numbered 18 people consisting of 10 farmers, 4 collectors and 4 large traders. Respondent characteristics observed were age, education level, and business experience of the respondent. The age level of respondents can be seen in table 1.

Table 1. Age Characteristics of Respondents

Age Group (Years)	Number of Respondents (People)	Percentage (%)
40-45	5	28%
46-50	9	50%
51-55	3	17%
56-60	1	6%
Total	18	100

The table above shows the age of respondents who are seaweed business actors almost entirely in the productive age, while business people with age 46-50 are the most respondents with a percentage of

50%, age 40-45 totaling 5 respondents with a percentage of 28%, aged 51-55 amounted to 3 respondents with a percentage of 17%, and 56-60 are respondents at least as many as 1 person with a percentage of 6%.

Tabel 2. Educational Characteristics of Respondents

Last Education	Number of Respondents (People)	Percentage (%)
Primary School	4	22%
Junior High School	6	33%
Senior High School	3	17%
Diploma 1	1	6%
Diploma 3	2	11%
Bachelor Degree	1	6%
Master Degree	1	6%
Total	18	100

The table above shows the general seaweed marketing business actors who became

respondents in the Muara Gembong constitute the majority of Junior High

School graduates, this is seen from the percentage of Junior High School graduates reaching 33% or as many as 6 people, followed by school graduates Elementary by 22%, and High School Graduates (high

school) by 17%, Diploma 3 graduates by 11%, and graduates of Diploma 1, Bachelor Degree and Master Degree amounted to one person or as much as 6%.

Table 3. Characteristics of Respondent Business Experiences

Business Experience (years)	Number of Respondents (people)	Percentage (%)
1-5	13	72%
6-10	5	28%
Total	18	100

The table above shows the respondents with 1-5 years of business experience have a percentage of 72% and 6-10 years of business experience of 28% with a total of

5 respondents. The length of a person's work experience will affect his work skills both in terms of work ability or seriousness and tenacity in working.

Business Profit Analysis

According to (Lipsey 1990), profit is the difference between the income received

from sales and the opportunity costs of the resources used in the production process.

Table 4. Analysis of Advantages of Seaweed Cultivators

Fixed Cost	87,500
Variable Cost	24,795,500
Total Cost	24,883,000
Income	52,500,000
Profit	27,617,000

The table above shows the profit data from seaweed cultivators. The total income obtained by seaweed farmers is IDR 52,500,000. Total costs are calculated from fixed costs and variable costs that get a

result of Rp. 24,883,000. The business profit gained by seaweed farmers is IDR 27,617,000. The benefit is obtained from 6 times the cultivation cycle in 1 year.

Table 5. Advantages of Seaweed Collectors Analysis

Fixed Cost	3,300,000
Variable Cost	139,505,000
Total Cost	142,805,000
Income	206,250,000
Profit	63,445,000

The table above shows the profit data from seaweed collectors. The total income obtained by seaweed farmers is IDR 206,250,000. The total cost is calculated from the fixed costs and variable costs that

get the result of IDR 142,812,500. The business profit gained by seaweed farmers is IDR 63,445,000. The benefit is obtained from 6 times the cultivation cycle in 1 year.

Table 6. Profit Analysis of Seaweed Wholesalers

Fixed Cost	5,771,875
Variable Cost	219,805,500
Total Cost	225,576,875
Income	487,500,000
Profit	261,923,125

The table above shows the profit data from large seaweed wholesalers. The total income obtained by large seaweed traders is IDR 487,500,000. Total costs are calculated from fixed costs and variable costs that get the result of IDR 225,576,875. The business profit gained by seaweed wholesalers is IDR 261,923,125. The benefit is obtained

from 6 times the cultivation cycle in 1 year. It can be seen that those who have the biggest advantage in the seaweed marketing channel are large traders, namely IDR 261,923,125 in 1 year, this is due to the selling prices of large traders compared to other marketing institutions.

Marketing Analysis

Benefit Cost Ratio

Table 7. Value of B/C Ratio of marketing institutions

No.	Type of Business	B/C Ratio Value	Feasibility
1	Cultivators	2.11	Worth the Effort
2	Collectors	1.44	Worth the Effort
3	Wholesalers	2.16	Worth the Effort

In the table above shows the value of the B / C ratio of each seaweed business. In B / C

Ratio cultivators, the value obtained is 2.11, which means that the business is feasible to

run. In the collector B / C Ratio value obtained is 1.44, the business is feasible to run. For large traders, the B / C Ratio value is 2.16, which means that the business is feasible to run. A value that indicates more than 1 means the business is feasible to run. This is consistent with the statement from

Payback Period

The results showed that the payback period for seaweed business was one year. The payback period is calculated from the ratio between the total investment cost and the profits obtained to find out how long the business that was undertaken can only

(Riyanto 1998) which states that the requirements of $BCR > 1$, then the business is profitable and feasible. Then if $BCR = 1$, then the business is not profitable and not loss (marginal). Then if $BCR < 1$, the business is detrimental so it is not feasible to be carried out.

return the investment. According to (Hendrik 2010) The smaller the value of the payback period, the faster the return on capital, the return of capital in the seaweed business is relatively fast, otherwise the greater the value of the payback period, the longer the return on capital to the business.

Table 8. Payback Period for Cultivators

No.	Cost Components	Amount of Cost (Years)
1	Investment Cost	5,513,000
2	Profit	27,617,000
	Total	0.20

The payback period is calculated from the ratio between the total investment cost and the profits obtained to find out how long the business that was undertaken can only

return the investment. The table above shows that the payback period for seaweed cultivators is 0.20.

Table 9. Payback Period for Collectors

No.	Cost Components	Amount of Cost (Years)
1	Investment Cost	5,728,750
2	Profit	63,445,000
	Total	0.09

The table above shows the payback period of seaweed collectors is 0.09. The payback value for the period is a measurement value to find out how long the operational costs

incurred by the entrepreneur can be returned. The greater the payback period, the longer the time needed to recover operational costs.

Table 10. Payback Period for Wholesalers

No.	Cost Components	Amount of Cost (Years)
1	Investment Cost	45,575,000
2	Profit	261,923,125
	Total	0.17

The table above shows the period payback from seaweed wholesalers is 0.17. The payback value for the period is a measurement value to find out how long the operational costs incurred by the entrepreneur can be returned. The greater the payback period, the longer the time needed to recover operational costs. Can be

seen from the 3 tables that have the smallest period payback value is a collector with a period payback value of 0.09. The payback value for the period is a measure of value to find out how long the investment costs incurred by the entrepreneur can be returned.

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Conclusion

Based on research that has been done, it can be concluded as follows

1. The seaweed marketing channel in Muara Gembong has three marketing institutions consisting of farmers, collectors and large traders. This marketing channel is a channel that involves 10 farmers, 4 traders, and 4 large traders.
2. The marketing institutions with the highest level of efficiency are large traders. Large traders have the highest B / C Ratio, with a value of 1.16, with a business feasibility has a profit IDR 261,923,125 in 1 year with a business feasibility has a profit of IDR 261,923,125 in 1 year and has a payback period value of 0.17.

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