

## COST STRUCTURE AND REVENUE OF THE ODOT GRASS CULTIVATION BUSINESS AT PT. VILLA TANI INDONESIA

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### Abstract

*This research was conducted to analyze the cost structure of the odot grass cultivation business at PT. Villa Tani Indonesia. Analyzed the amount of income obtained from the odot grass cultivation business at PT. Villa Tani Indonesia. Analyze the B/C ratio, Break Even Point (BEP), and Payback Period (PP) levels of the odot grass cultivation business at PT. Villa Tani Indonesia. The subject in the study was odot grass. The research method uses analytical tools, namely cost structure analysis, operating income, and continued analysis of profit-to-cost ratios (B/C ratio), Break Even Point (BEP), and Payback Period (PP). Quantitative data that has been grouped and tabulated, then processed with the help of the Microsoft Excel 2019 program software. The results of the study show variable costs have a greater percentage than fixed costs. Odot grass cultivation business income at PT. Villa Tani Indonesia a year amounted to IDR 289,365,529 for one year with an area of 2 hectares. The value of the profit-to-cost ratio (B/C ratio) obtained by PT. Villa Tani Indonesia at 5.20. This means that the condition is profitable to work on or run. The BEP value of odot grass volume was obtained at 111,388 per kg and the price BEP value was obtained at IDR 80.70 per kg. Payback value k the period (PP) of the odot grass cultivation business was obtained by 0.50 which indicates that it will experience a return on capital for 6 months.*

**Keywords:** Odot Grass; Cost Structure; Revenue

## INTRODUCTION

The development of ruminants based on a regional planning approach is one of the efforts to increase the role of ruminants in improving the economy of a region. This can be achieved by synergizing the potential of ruminant and regional tern ak commodities. However, the supply of forage feed sometimes encounters obstacles, especially in the dry season because the quantity is very limited and the quality is low. The limited availability of forage feed will affect the productivity of farm animals.

Fodder forage is the main food source that is needed for ruminants. One type of forage feed that can be chosen as an alternative is odot grass (*Pennisetum puidrureum* cv. Mott). Cikerai Village is one of the villages that has the potential to develop odot grass cultivation business, especially on dry land. Cikerai Village is in Cibeber District, Cilegon City, Banten Province. This village has potential in agriculture with fertile land found in mountainous areas.

PT. Villa Tani Indonesia has been present to bring a new face and brand to the Indonesian agricultural industry in 2020, especially in Cikerai Village, Cibeber District, Cilegon City, Banten Province. This will certainly encourage the development of the agricultural sector, especially in Cikerai Village, Cibeber District, Cilegon City, Banten Province. Odot grass production in PT. Villa Tani Indonesia can reach 690,119.06 kg / 2 ha / year for the period April 2021-April 2022 with 7 harvest cycles a year.

The results of odot grass production in PT. Villa Tani Indonesia in one year, each harvest always increases from the first harvest to the seventh harvest. This is because from the first harvest to the seventh harvest, odot grass will produce the number of saplings per clump

of about 25-30 new shoots that increase, so that in the harvest First to the seventh harvest odot grass production continued to increase. The characteristics of the odot grass cultivation business are the propagation of odot grass shoots which are relatively fast dalam within 40-60 days have been able to be harvested again.

Economically, the odot grass cultivation business has quite good prospects, adjusted to the demands of the main customer, namely Villa Ternak. The selling price of odot grass in PT. Villa Tani Indonesia is as wide as IDR 500 per kg. PT. Villa Tani Indonesia took advantage of this opportunity by running an odot grass cultivation business. The need for large odot grass forage is a business opportunity for PT. Villa Tani Indonesia in utilizing land for odot grass cultivation because forage is always needed fresh and in besar amounts.

But in running its business, PT. Villa Tani Indonesia has not evaluated the cost structure since the beginning of the business operation, but the company does not know a detailed picture of its business cost structure, so that the value of the income received has not been maximized and has an impact on the absence of financial evaluation. In addition, the company has not yet calculated the efficiency of the odot grass cultivation it runs. Therefore, it is necessary to analyze the cost structure and the amount of income received in running an odot grass cultivation business at PT. Villa Tani Indonesia.

Based on the background description above, this study aims to Analyze the cost structure incurred from the odot grass cultivation business at PT. Villa Tani Indonesia. Analyze of the amount of income received from the odot grass cultivation business at PT. Villa Tani Indonesia. Analyze the *B/C Ratio*, *Break Even Point (BEP)*, and *Payback Period (PP)* levels of the odot grass cultivation business at PT. Villa Tani Indonesia.

## RESEARCH METHODS

### Research Location and Time

The research was conducted at PT. Villa Tani Indonesia located inCikerai Village, Cibeber District, Cilegon City, Banten Province 42165. The study was conducted in approximately 3 months, starting from March to May 2022.

### Data Types and Sources

Quantitative data are data related to costs, the amount of odot grass production, information on the selling price of odot grass per kg and other data used to analyze cost structure, and operating income. Primary data were obtained through direct observation and interviews. Secondary data obtained from the financial data of PT. Villa Tani Indonesia and other data obtained from various agencies have been published from journals, theses, books, and other data sources.

### Data Processing and Analysis Methods

Furthermore, the data is grouped by tabulation first. Then processed using tools in the form of *Microsoft Office Excel 2019* software.

### Business Cost Structure Analysis

Analysis of data used to determine the cost structure of odot grass cultivation business at PT. Villa Tani Indonesia as follows:

#### Total Cost

Referring to Soekartawi (2016: 103), the calculation of the total cost of odot grass cultivation business can be systematically calculated using the following formula.

$$TBR = BTR + BVR..... (1)$$

Description:

TBR = Total Cost of Cultivation Business Odot Grass (IDR)

BTR = Fixed Cost of Cultivation Business Odot Grass (IDR)

BVR = Variable Cost of Cultivation Business Odot Grass (IDR)

Referring to Suripatty (2011: 136), to calculate the percentage of the cost structure of odot grass cultivation business, the following formula equation is used.

$$SBR = \frac{BTR \text{ atau } BVR}{TBR} \times 100\% \dots \dots \dots (2)$$

Description:

SBR = Cost Structure of Cultivation Business Odot grass (%)

BTR = Fixed Cost of Cultivation Business Odot Grass (IDR)

BVR = Variable Cost of Cultivation Business Odot Grass (IDR)

TBR = Total Cost of Cultivation Business Odot Grass (IDR)

**Operating Income Analysis**

Referring to Soekartawi (2016: 57), the income of the odot grass cultivation business can be systematically calculated by the following formula.

$$PdR = TPR - TBR \dots \dots \dots (3)$$

Description:

PdR = Cultivation Business Income Odot Grass (IDR)

TPR = Total Revenue of Cultivation Business Odot Grass (IDR)

TBR= Total Cost of Cultivation Business Odot Grass (IDR)

**B/C Ratio Analysis**

Analysis of the profit-to-cost ratio or B/C *ratio* is a comparison between the income received and the total costs incurred in running an odot grass cultivation business. Referring to Rahardi and Soekartawi (2016: 88) the profit to cost ratio analysis formula (B/C *ratio*) can be written as follows.

$$B/C \text{ RO} = \frac{PdR}{TBR} \dots \dots \dots (4)$$

Description:

B/C RO = Profit-to-Cost Ratio Odot Grass Cultivation Business

PdR = Cultivation Business Income Odot Grass (IDR)

TBR = Total Cost of Cultivation Business Odot Grass (IDR)

The criteria in assessing the B/C *ratio of* odot grass cultivation businesses are as follows. The B/C value > 0, then the odot grass cultivation business is profitable to be cultivated or continued. Value of B / C = 0, then the odot grass cultivation business is unprofitable and not detrimental. The B / C value < 0, then the odot grass cultivation business is detrimental to being cultivated or continued.

**Break Even Point (BEP) Analysis**

Referring to Matheus (2019: 88) there are two formulas for calculating the *Break Even Point* (BEP), namely the BEP of odot grass sales volume and the BEP of the selling price of odot grass, which can be written as follows.

1. The calculation of the BEP of the unit or unit of product that is sold is as follows:

$$BEP (P) = \frac{TBR}{HJR} \dots \dots \dots (5)$$

Description:

BEP(P) = BEP Sales Volume Odot grass (kg)

TBR = Total Cost of Cultivation Business Odot Grass (IDR)

HJR = Selling Price of Odot Grass (IDR/kg)

2. The calculation of BEP in rupiah is as follows:

$$\text{BEP (IDR)} = \frac{\text{TBR}}{\text{JPR}} \dots\dots\dots (6)$$

Description:

BEP(IDR) = BEP Selling Price of Grass Odot (IDR/Kg)

TBR = Total Cost of Usaha Cultivation Odot Grass (IDR)

JPR = Odot Grass Production Amount that Sold in 1 Year (kg)

**Payback Period (PP) Analysis**

Referring to Suliyanto (2010: 195) payback period analysis is the length of the required period. Payback period analysis is used to find out how long the invested capital will return. Systematically, the calculation of payback period analysis can be written as follows.

$$\text{PPR} = \frac{\text{IR}}{\text{PdR}} \times 1 \text{ year} \dots\dots\dots (7)$$

Description:

PPR = Payback Period of Cultivation Business Odot grass

IR = Investment in Grass Cultivation Business Odot (IDR)

PdR = Cultivation Business Income Odot Grass (IDR)

**RESULTS AND DISCUSSION**

**Cost Structure of Odot Grass Cultivation Business**

**Total Cost and Fee Structure**

Total costs are the total costs incurred by PT. Villa Tani Indonesia in running an odot grass cultivation business. The calculation of total costs is obtained from the sum between fixed costs and variable costs incurred by PT. Villa Tani Indonesia in conducting odot grass cultivation business. The details of the total cost of the odot grass cultivation business at PT. Villa Tani Indonesia can be seen in Table 1.

**Table 1.** Total Cost and Cost Structure of Odot Grass Business PT. Villa Tani Indonesia Period April 2021-April 2022

No	Fee Structure	Total Cost (IDR)	Percentage (%)
<b>Fixed Costs</b>			
1	UN Fee (Land and Building Tax)	56.000	0,10
2	Storage Warehouse Depreciation Costs	500.000	0,90
3	Equipment Depreciation Costs	2. 710.000	4,87
4	Vehicle Depreciation Charges	5.652.000	10,15
<b>Variable Costs</b>			
1	Cost of Agricultural Production Factors	7. 966.000	14,29
2	Cost of Electricity dan Water	2.400.000	4,31
3	Gasoline Cost	4. 560.000	8,19
4	Labor Wages	31. 850.000	57,19
<b>Total</b>		<b>55. 694.000</b>	<b>100</b>

Source: Primary Data (processed), 2022

Based on Table 1. above, the total costs incurred by PT. Villa Tani Indonesia in running an odot grass cultivation business for one year is IDR 55,694,000. The total cost of odot grass cultivation business consists of fixed costs of IDR. 8,918,000 with a percentage of 16.01% and variable costs of IDR. 46,776,000 with a percentage of 83.99%. This shows that in carrying out the odot grass cultivation business at PT. Villa Tani Indonesia, variable costs are greater than fixed costs. The amount of variable costs incurred by PT. Villa Tani Indonesia; it is necessary to carry out proper cost management so that variable expenses for the odot grass cultivation business that is run do not cause excessive costs.

### Operating Income Analysis

Analysis of odot grass cultivation business income at PT. Villa Tani Indonesia is the difference between the total receipt of fresh odot grass and 7 harvests in one year with the total cost of running an odot grass cultivation business at PT. Villa Tani Indonesia. The greater the difference between business receipts and total costs. The income of the odot grass cultivation business at PT. Villa Tani Indonesia for the period of April 2021-April 2022 is IDR 289,365,529. This shows that the income earned by PT. Villa Tani Indonesia in the odot grass cultivation business for the April 2021-April 2022 period has experienced benefits, because it has a positive value from the total receipts obtained greater than the total costs incurred.

### Analysis of Odot Grass Cultivation Business

Analysis of odot grass cultivation business to find out the extent of the level of business efficiency run by PT. Villa Tani Indonesia can be said to provide benefits to be designed or developed.

#### B/C Ratio Analysis

The analysis of the profit to cost ratio (B/C ratio) is a comparison between the income earned by PT. Villa Tani Indonesia with costs incurred while running an odot grass cultivation business. This B/C ratio analysis is used to see the level of profit benefits obtained from each rupiah of costs incurred in running an odot grass cultivation business at PT. Villa Tani Indonesia. The following is a calculation of the B/C ratio analysis of odot grass cultivation business for the period April 2021-April 2022 can be seen in Table 9.

**Table 2.** Business B/C Ratio analysis Odot Grass Cultivation PT. Villa Tani Indonesian for April 2021-April 2022

Description	Value
Total Revenue (IDR)	265.529.529
Total Cost (IDR)	55.694.000
B/C Ratio	5,20

Based on Table 2. above, the value of the profit-to-cost ratio (B/C ratio) obtained by PT. Villa Tani Indonesia in carrying out the odot grass cultivation business for the April 2021-April 2022 period is 5.20. The B/C ratio value of 5.20 means that every IDR 100,000 of costs incurred, then PT. Villa Tani Indonesia in running an odot grass cultivation business will get a profit benefit of IDR. 520,000.

### Break Even Point (BEP) Analysis

The following is a detailed calculation of the value of BEP volume and BEP price in the odot grass cultivation business at PT. Villa Tani Indonesia for the period of April 2021-April 2022 can be seen in Table 10.

**Table 3.** BEP Analysis of Cultivation Business Odot Grass on PT. Villa Tani Indonesia Period April 2021-April 2022

Description	Value
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Total Cost (IDR)	55.694.000
Selling Price (IDR/kg)	500
Production Quantity (Kg)	690.119,06
BEP Volume (Kg)	111.388
BEP Price (IDR/kg)	80,70

Source: Data Processed, 2022.

The results of the analysis of the value of BEP odot grass cultivation business volume during the period April 2021-April 2022 was 111,388 kg. This means that the odot grass cultivation business did not experience any gains or losses when the odot grass production volume reached 111,388 kg. The result of the calculation of the BEP value of the price obtained is IDR 80.70 per kg. This means that the minimum price that must be set by PT. Villa Tani Indonesia to maintain the level of profit in the odot grass cultivation business is 80.70 per kg, so that at the time the selling price of odot grass is IDR 80.70 per kg does not experience any advantages or disadvantages.

### Payback Period (PP) Analysis

Payback period analysis on PT. Villa Tani Indonesia is to determine how long the capital invested in running an odot grass cultivation business will return. The following is a detailed calculation of the payback period analysis of the odot grass cultivation business at PT. Villa Tani Indonesia for the period of April 2021-April 2022 can be seen in Table 4.

**Table 4.** Business Payback Period Analysis Odot Grass Cultivation PT. Villa Indonesian Farmers for April 2021-April 2022

Description	Value
Investment Value (IDR)	144.680.000
Operating Income (IDR)	289.365.529
Payback Period (PP)	0,50

Source: Data Processed, 2022

The payback period value for the odot grass cultivation business at PT. Villa Tani Indonesia is 0.50. This shows that the odot grass cultivation business during the period April 2021-April 2022 will experience a return-on-investment capital within a period of 6 months.

## CONCLUSIONS AND SUGGESTIONS

Based on the cost structure analysis of the odot grass cultivation business at PT. Villa Tani Indonesia consists of fixed costs of IDR 8,918,000 with a percentage of 16.01% and variable costs of IDR 46,776,000 with a percentage of 83.99%. Variable costs have a greater percentage than fixed costs. Odot grass cultivation business income at PT. Villa Tani Indonesia during the period April 2021-April 2022 is IDR 289,365,529. The value of the profit-to-cost ratio (B/C ratio) in the odot grass cultivation business is 5.20. It means PT. Villa Tani Indonesia in running an odot grass cultivation business has provided benefits (advantages) to run. BEP volume value for odot grass cultivation business at PT. Villa Tani Indonesia for the period of April 2021-April 2022 is 111,388 kg. BEP price value for odot grass cultivation business at PT. Villa Tani Indonesia for the period of April 2021-April 2022 is IDR 80.70 per kg. This shows that the selling price and amount of odot grass production that have been set by PT. Villa Tani Indonesia has more than calculated BEP which means the odot grass cultivation business at PT. Villa Tani Indonesia has experienced benefits. The payback period value obtained by odot grass cultivation business is 0.50. This shows that the odot grass budidaya business at PT. Villa Tani Indonesia will experience a return of capital for 6 months.

PT. Villa Tani Indonesia is expected to be able to carry out cost management planning in the future, so that the cost expenditure from the odot ya ng grass cultivation business is not

incurring excessive costs and recommends that the company should make structured financial reports every year so that the business being run can run well and make it easier for PT. Villa Tani Indonesia and conducted a financial (financial) evaluation. PT. Villa Tani Indonesia is expected to increase the amount of odot grass production and expand its market to breeders in Banten Province, not only in Cilegon City. PT. Villa Tani Indonesia is also advised to increase its source of income by selling odot grass seeds.

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