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Factors Affecting Production and Value Added by Coconut Farmers in West Aceh District

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Abstract **- This research aims to analyze the effect of tree number, plant age, labor, fertilizer, and herbicide on coconut production and to analyze the added value of coconut farmers. The results showed that 1) Number of trees (X_1), plant age (X_2), Labor (X_3), and Fertilizer (X_4) had a positive and significant influence on coconut production in West Aceh district, while Herbicide (X_5) and significant to coconut production in West Aceh District. 2) Acceptance of *Virgin Coconut Oil* (VCO) of Rp. 428.266.67 each time the production with total cost of Rp. 369.279.57. The value added processing of *Virgin Coconut Oil* (VCO) is Rp. 2.674.43 / Liter. R/C *Virgin Coconut Oil* (VCO) is 1.16. 3) Acceptance of broom sticks of Rp. 180.465,00 each time the production with total cost of Rp. 138.466,16. 2). Value added in broom making Rp. 2.547.31 / ikat. R / C on broom making that is 1.30.**

Keywords **– Coconut; Production Factors; Reception; R/C; Value Added.**

I. INTRODUCTION

Along with the current population growth rate shows that demand / demand for coconut is higher considering its product is one of the nine basic commodities of society. On the other hand, coconut production in its development tends to remain unbalanced with its demand rate, unstable production and price is the cause of the fluctuation of income at the farm level.

This is thought to be caused by several problems, among others: the cutting of coconut trees for building materials so that the number of existing plants is reduced every year, the lack of old plant rejuvenation, the availability of land for increasingly limited exensification, lack of use of production technology technologies such as the use of fertilizers, intensive and others that also directly affect the production of coconut farmers.

Table 1. Large Area and Number of Indonesian Coconut Production Year 2011-2016

Year	Large Area (Ha)				Production (ton)	Produktivity (kg/ha)	Number of Farmers (kk)
	TBM	TM	TTM	Amount			
2011	554.638	2.709.148	461.998	3.725.784	3.132.843	1.156	6.937.693
2012	561.857	2.709.865	473.095	3.744.817	3.135.474	1.157	6.998.479
2013	564.787	2.713.390	474.991	3.753.167	3.136.642	1.156	7.007.142
2014	499.085	2.614.127	457.721	3.570.932	2.968.578	1.136	6.622.870
2015	486.424	2.587.624	459.253	3.533.300	2.924.080	1.130	6.554.333
2016	477.415	2.570.777	458.480	3.506.672	2.886.277	1.123	6.497.105

Source: Directorate General of Plantation, 2016

In Aceh Province, especially West Aceh regency which is one of the coconut production centers tend to increase production can be seen in Table 2.

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Tabel 2. Luas Areal dan Jumlah Produksi Kelapa Kabupaten Aceh Barat Tahun 2011-2016

Year	Large Area (Ha)				Production (ton)	Productivity (kg/ha)	Number of Farmers (kk)
	TBM	TM	TTM	Amount			
2011	53,70	2.345,40	337,00	2.736,10	1.362,36	581	2.346
2012	56,70	2.345,40	337,00	2.739,10	1.172,70	500	2.346
2013	162,00	2.356,90	335,00	2.853,90	1.178,45	500	2.521
2014	319,50	2.412,40	337,00	3.068,90	1.205,20	500	2.850
2015	359,50	2.540,00	352,50	3.252,00	1.269,00	500	2.899
2016	358,50	2.546,40	358,50	3.263,20	1.273,20	500	2.859

Sumber: Dinas Perkebunan Kabupaten Aceh Barat, 2016

So many coconut processing industry companies pay attention to coconut has a pretty good prospect. However, the coconut processing industry can not be separated from various problems, both technical and non technical. Especially for small and medium industries, whereas Small and Medium Enterprises is the biggest potential of existing industries and is the driving force of industry throughout Indonesia.

The problem of coconut industry in West Aceh Regency is how income and value added from coconut processing industry. The processing industry is in the form of processing industry VCO (virgin Coconut Oil) and the manufacture of broom stick. How the comparison between these types of industries need to be researched as an information material for people in the district of West Aceh through income analysis of the coconut processing industry.

Marchel (2016), in the comparative study of the income level of coconut farmers in South Minahasa District shows the results of research that the income of coconut farmers of Ongkaw I Village is higher than in Tiniawangko Village. The income of coconut farmer of Ongkaw I Village is Rp. 20,994,845 and Desa Tiniawangko is Rp. 14.441.309. Range of income of coconut farmer of Desa Ongkaw I maximum Rp. 49. 280.000 while minimum income of Rp. 2,244,000. Range of income of coconut farmer of Tiniawangko maximum reached is Rp. 38,400,000 and the minimum revenue is Rp. 1,848,000.

Adha Panca and Anhar (2012), the strategy of developing coconut agroindustry as an effort to accelerate the economy of society In Ketapang District. The result of the study shows that the strength factor is the availability of raw materials with the value of 0.281, while the weakness factor is the relatively low level of education with the value of 0.314.

II. RESEARCH METHODS

A. Sample Determination Method

The sampling method was determined by Slovin method where this method assumed a large population, and the sample was randomly sampled and selected 96 people were randomly assigned as the study sample. The determination of value added respondents was done by interviewing all the processing industry of VCO (Virgin Coconut Oil) Agroindustry as many as 15 people and the making of broom stick as many as 20 people in West Aceh regency, because the number of coconut processing population is not much then the method used is census method.

B. Analysis Method

The method of analysis used in this study is a qualitative analysis model that analyzes the factors of coconut production. Multiple linear regression analysis to determine the effect of tree number, plant age, labor, fertilizer, and herbicide on coconut production in West Aceh Regency expressed in the form of function as follows:

$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + €$

Where :

Where :

Y = Production (item)

X1 = Tree Number (Tree)

X2 = Age of the plant (Year)

X3 = Labor (People)

X4 = Fertilizer (Kg)

X5 = Herbicide (Liter)

a = Constants

b1 - b5 = Regression coefficient factor X1 - X5

€ = Variable error of intruder

The quantitative analysis used to analyze the added value in this research is the acceptance analysis, business feasibility analysis (R/ C), and value added analysis on each processed product of coconut raw material VCO (Virgin Coconut Oil) Agroindustry and broom making stick.

The large revenue analysis is the result of multiplication between the production obtained and the selling price. Soekartawi (1995) writes the formula of acceptance as follows:

TR = Y. Py
Information:
TR = Total Reception / Total Revenue (Rp)
Y = Total Production (Kg)
Py = Product Selling Price (Rp / Kg)

To calculate the total cost used formula:

TC = FC + VC
Information:
TC = Total Cost (Rp)
FC = Fixed Cost (Rp)
VC = Variable Cost (Rp)

The cost of depreciation of agricultural equipment is also calculated by dividing the difference between the initial purchase value and the residual value or the value of the sale of agricultural equipment at the present time which is interpreted by the length of capital used. The calculation of depreciation cost used in this research is a straight-line method. This method is used because the amount of annual shrinkage is considered the same and is assumed to be unsold if sold. The formula used is adjusted to Soekartawi (2006) as follows:

Depreciation Cost = $\frac{Nb-Ns}{n}$
Information :
Nb = Purchase Value (Rp)
Ns = Time Value (Rp)
n = Economic Age

One type of farming feasibility analysis that is widely used is the R / C ratio. R / C analysis is the ratio of total revenue to total production cost in each farm. Suratiyah (2009) wrote the formula for calculating and determining R / C ratio criteria is as follows:

R / C = $\frac{Total\ Reception}{Total\ Production\ Cost}$
By criterion:
- R / C> 1, then the business is feasible
- R / C = 1, then the business is at a breakeven point
- R / C <1, then the business is not worth / loss

The R / C ratio shows the amount of demand for each Rupiah required in a farming activity.

Approach method used to calculate value added in this research is used by using value added calculation based on Hayami method (1987).

III. Results And Discussion

Hypothesis testing is done by testing the regression equation partially or simultaneously.

The result of regression model equation from research result is obtained as follows:

A. Test t

Table 3. Test Analysis Result t

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3798.631	1731.076		-2.194	.031
	Number of Trees (X_1)	100.718	2.307	.864	43.650	.000
	Plant Age (X_2)	101.148	59.841	.013	1.690	.094
	Labor (X_3)	61.951	7.495	.167	8.266	.000
	Fertilizer (X_4)	4.203	.987	.066	4.260	.000
	Herbicide (X_5)	-315.170	41.175	-.098	-7.654	.000

Source: Primary Data Analysis, 2017

The test results are done by looking at the value of t test and test significance results. The individual significance test (t test) is a procedure with the sample result used to test the truth of a null hypothesis. The basic idea is a test of Y

statistic (estimator) and the distribution of statistical sampling in the null hypothesis. The input to accept or reject Ho is made on the basisthe value of test statistic obtained from the data owned.

Based on the result of regression analysis of variable variable of tree number (X1), labor (X3), fertilizer (X4), and herbicide (X5) obtained t value> t table 1.990 and significance value <0,05. Then it can be concluded that H0 is rejected and H1 accepted, which means the variable number of trees (X1), labor (X3), fertilizer (X4), and herbicide (X5) have significant effect on production (Y). While the age variable of plant (X2) t value count <t table 1.990 and significance value> 0,05. Then it can be concluded that H0 is accepted and H1 is rejected, which means the age variable of plant (X2) has no significant effect on production (Y).

B. Test F

Table 4. Test Analysis Result f

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.241E10	5	2.483E9	3943.748	.000[a]
	Residual	5.666E7	90	629600.745		
	Total	1.247E10	95			

Source: Primary Data Analysis, 2017

Based on Table 4, the calculated F value is 3943,748. Then note that the value of F table of 2.31. Because the value of F arithmetic 3943.748 greater than F table 2.31 it can be concluded that the independent variables X1, X2, X3, X4, X5 (simultaneously) affect the dependent variable (Y).

From the output data spss above, known value of significance of 0.000. Because the significance value of 0,000 <0.05 according to the basis of decision making in the F test it can be concluded that the independent variables X1, X2, X3, X4, and X5 (simultaneously) have a significant effect on production (Y).

C. Coefficient of Determination (R2)

Tabel 5. Test Analysis Result R2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.998[a]	.995	.995	793.474

Source: Primary Data Analysis, 2017

From the output of the summary model, it is known that the coefficient of determination (R Square) is 0.995 (the value of 0.995 is the squaring of the correlation coefficient of Tau R, that is 0.998 x 0.998 = 0.995). The magnitude of the coefficient of determination (R Square) 0.995 equals 99.5%. This number means that the independent variables (X1, X2, X3, X4, X5) have an effect on the production of 99.5%. While the rest (100% - 99.5% = 0.5%) is influenced by variable outside this regression model.

In this study provide empirical evidence that coconut production can be affected by the number of trees, age of plants, labor, fertilizers, and herbicides. This means that the changes that occur in the given factor, the resulting coconut production value will also change. It is further found that 99% of coconut production can be affected by these five variables. Based on the equation of regression result, the regression model estimation is as follows:

$$(Y) = -3798.631 + 100.718\ (X_1) + 101.148\ (X_2) + 61.951\ (X_3) + 4.203\ (X_4) - 315.170\ (X_5).$$

a. Influence of Tree Number on Coconut Production

Based on the value of regression coefficient of tree number (X1), 100,718 stated that if the variable of the number of trees increased by 1 percent it will increase the amount of coconut production by 100.718 percent with the assumption that other variables are considered zero or constant.

Regression analysis results obtained t count value of 43.65> t table 1.990 and significance value 0.00 <0.05. Then it can be concluded that H0 is rejected and H1

accepted, which means the number of trees (X1) has a significant effect on production (Y). These results illustrate that a growing number of trees planted can produce more production.

This explains that coconut tree planting locations in the district of Aceh Barat tend to have similar characteristics in terms of soil fertility. Thus the growing number of trees planted will increase the amount of coconut production obtained.

Based on the results of the analysis showed significant results. This is in accordance with the theory that the number of trees as one of the factors of production that has a large contribution to farming. The small production of farming is influenced by the number of trees used (Yuniarto, 2008). To obtain agricultural output or output, one of the determining factors is the existing tree or seed in the field or used in producing the crop. The scale of increase in yields achieved by farmers is the increasing scale of yields that are proportionally increasing (Idris, 2006).

b. Effect of Plant Age on Coconut Production

Based on the value of regression coefficient variable age plant (X2), amounting to 101.148. Stating that if the age variable of the plant increased by 1 percent it will increase the amount of coconut production by 101.148 percent with the assumption that other variables are considered zero or constant. This is consistent with the theory that age of plants has a positive effect on coconut production. Coconut plants in West Aceh district have a plant life ranging from 25-30 years old indicating that coconut plant age in research area is productive age for coconut plant so that still can increase coconut production result.

Regression analysis results obtained t count value of 1.690 <t table 1.990 and significance value 0.094> 0.05. Then it can be concluded that H0 is accepted and H1 is rejected, which means plant age (X2) has no significant effect on production (Y). This result explains that the age of the plant does not directly increase the yield of coconut production.

Based on the results of the analysis indicated that plant age (X2) did not have a significant effect, this is not in accordance with the theory that the high level of coconut production is also influenced by the age of the coconut plant in a plantation. According Risza (2008) the wider the composition of young and old plants, the lower the level of production. While the more mature plants the higher the level of production.

c. The Effect of Labor on Coconut Production

Based on the value of variable labor regression coefficient (X3), 61,951 stated that if the variable of labor increased by 1 percent it will increase the amount of coconut production by 61.951 percent with the assumption that other variables are considered zero or constant.

Regression analysis results obtained t value of 8.266> t table 1.990 and significance value 0.00 <0.05. Then it can be concluded that H0 is rejected and H1 accepted, which means labor (X3) have a significant effect on production (Y). These results explain that the amount of labor in a production process can directly increase coconut production.

According to Soekartawi (1990), in the management of production resources, one important aspect in the calcification of agricultural resources is the aspect of labor. From result of regression analysis can know that labor factor have significant effect to coconut production. This explains that if the variable of labor is more than the amount of coconut production obtained will increase. In other words, it can be interpreted that the addition of manpower is still able to boost coconut production in West Aceh district.

d. Effect of Fertilizer on Coconut Production

Based on the value of variable fertilizer regression coefficient (X4), 4,203 states that if fertilizer variable has increased by 1 percent it will increase the amount of coconut production by 4.203 percent with the assumption that other variables are considered zero or constant.

Regression analysis results obtained t value of 4.260> t table 1.990 and significance value 0.00 <0.05. Then it can be concluded that H0 is rejected and H1 accepted, which means fertilizer (X4) has a significant effect on production (Y). These results explain that the increased use of the amount of fertilizer in a production process can increase the yield of coconut production. By using an effective and efficient fertilizer, so the quality of soil as coconut planting medium will provide the substances needed by the plant to produce more optimal fruit production. This is in accordance with the theory of fertilizer as one of the factors of production that has a large contribution to farming. Small-scale production of farming, among others, influenced by the fertilizer used (Heru, 1989). To obtain agricultural output or output, one of the decisive factors is the fertilizer used to produce the crop.

e. The Effect of Herbicides on Coconut Production

Based on the value of regression coefficient of herbicide variable (X5) of -315,170, states that if herbicide variable

increased by 1 percent it will decrease the amount of coconut production equal to -315.170 percent with the assumption that other variables are considered zero or constant. Herbicides have negative values for coconut production because in the study areas coconut farmers tend to use herbicides to control weeds on a regular basis, this will increase the amount of herbicide residues in the soil that can affect coconut production resulting in reduced coconut production.

Regression analysis results obtained t value of 7.654> t table 1.990 and significance value 0.00 <0.05. Then it can be concluded that H0 is rejected and H1 accepted, which means herbicide (X5) have a significant effect on production (Y). These results explain that increased use of herbicides in a production process can decrease the yield of coconut production.

Based on the theory that the continued use of herbicides will increase the amount of herbicide residue in the soil. According to Tjitrosoedirdjo (1984), herbicide residues are the remnants of herbicides and derivatives that remain in the soil or other environmental elements. Continuous use of herbicides for a long time will lead to the emergence of weed resistance to the herbicide so that the effectiveness of herbicides is reduced. This reduced effectiveness makes the use of herbicides to increase the dose of herbicides. Increasing this dose will eventually lead to new problems such as the accumulation of herbicides in the soil with large quantities, this will certainly affect the production.

The previous research by Fajrin (2016) with the title of research of production analysis and income of coconut farming in Tindaki Village, South Parigi Subdistrict of Parigi Moutong Regency shows the result of number of plant (X1), fertilizer (X2), and labor force (X3) simultaneously same effect on production or variable (Y) at the level of result of factor analysis show that F-count> F-table (60,758> 2,911) level 5%. So H1 received H0 rejected. Means together variables observed very significant effect on coconut farming at 5% level. While the t-test results show that partially the three variables that is the number of plants have a very significant effect on the level of confidence 95% and labor is very significant effect on the coconut farming in the Village Tindaki at 90% confidence level.

Value-added analysis is used to find out how much value is added to the raw material. In the value-added analysis of processed products can be calculated using the Hayami method. The result of calculation of value added on VCO (Virgin Coconut Oil) agroindustry can be seen in Table 6 below:

Table 6. Value Added On VCO Agroindustry (Virgin Coconut Oil)

No	Variable	Value
I	Output, Input, dan Price	
	1. Output	16,51
	2. Input	68,33
	3. Labor (HKP)	1,00
	4. Conversion Factor	0,24
	5. Labor Coefficient (HKP/I)	0,01
	6. Price Output (Rp/I)	25939,83
	7. Wages of Labor (Rp./HKP/I)	7669,99
II	Receipts and Profits	
	8. Raw Material Price (Rp./I)	3320,14
	9. Other Input Contribution (Rp./I)	230,98
	10. Output Value (Rp./I)	6225,55
	11. a. Value Added (Rp./I)	2674,43
	b. Added Value Ratio (%)	42,95
	12. a. Labor Revenue (Rp./I)	76,69
	b. Share of Labor (%)	2,87
	13. a. Advantages (Rp/l)	2597,74

	b. Profit Rate (%)	97,13
III	Reply Service Owner Factor Production	
	14. Margin (Rp./I)	2905,41
	a. Labor Revenue (%)	2,64
	b. Other Input Contribution (%)	7,95
	c. Employer Profit (%)	89,41

Source: Data Processed, 2017

Based on Table 6, it can be seen that the output obtained for one-time production in coconut processed products in the form of VCO (Virgin Coconut Oil) is 16.51 and requires input of 68.33 liters. This means that to produce 16.51 liters of coconut oil coconut milk is needed as much as 68.33 liters of coconut milk so that the ratio of output to the input in the processing of VCO (Virgin Coconut Oil) is 1: 4. The amount of labor used in the processing of coconut oil it is 1 HKP, the amount of labor is only one person because the processing industry VCO (Virgin Coconut Oil) is still individual and processed directly by the head of the family.

The added value resulting from the processing of VCO (Virgin Coconut Oil) in one liter is Rp.2.674,43 which is obtained from the reduction of the output value less than the contribution of other inputs and raw materials in lit units while the added value ratio of 42.95% . In the variable, the remuneration of the owner of the factor of production obtained the margin of Rp.2.905,41 with the labor income was 2.64%, the other input contribution was 7.95% and the profit of the businessman was 89.41%. Thus, the highest income of the owner of the factor of production is obtained by the entrepreneur.

Previous research conducted by Farray (2011) who examines the analysis of value added VCO (Virgin Coconut Oil) at PT. Bumi Sarimas Indonesia in West Sumatra concluded that the industry earns a profit of Rp. 42.275.000 with a ratio R / C ratio of 1.2 and the company will break even while producing 2,119.68 liters, with a breakeven product price of Rp. 49.934 / liter, and the breakeven point for revenue of Rp. 127.181.019. The added value obtained from the production processing activities of PT. Bumi Sarimas Indonesia is Rp. 7.252 / liter VCO (Virgin Coconut Oil). The contribution of value added by VCO (Virgin Coconut Oil) products is 0.99% given to direct labor, 71.53% and 27.48% for other factors. The biggest added value is accepted by the company.

Rina (2014), in the research of value-added analysis on various coconut processing janis (Cocos nucifera Linn) in Batubara District, Tanjung Tiram Sub District explained the highest acceptance is at cocomesh Rp. 82 million each time production with total cost of Rp. 25.002.718, while the lowest is Virgin Coconut Oil (VCO) which is Rp. 1.750.000 with total cost of Rp. 735835. Value added for each kg of processing of the highest raw material is the result of processing of coconut coir that is Rp. 45.834 / kg, while the lowest is copra which is Rp.964 / kg and the highest R / C is cocomesh that is 3.26 while the lowest is copra that is equal to 1.09.

The added value analysis of broomstick making can be calculated by using Hayami method used to find out how much value is added to the raw material of broom making. The greater the added value the greater the income and the revenue received from the production of broomsticks. Calculation of added value on broom making products in stick

West Aceh District can be seen in Table 7 below:

Table 7. Added Value Sweeping Lidi

No	Variable	Value
I	Output, Input, dan Harga	
	1. Output	34,05
	2. Input	34,05
	3. Labor (HKP)	1,00
	4. Conversion Factor	1,00
	5. Labor Coefficient (HKP/Set)	0,03
	6. Price Output (Rp/Ikat)	5300,00

	7. Wages of Labor (Rp./HKP/Set)	1313,85
II	Receipts and Profits	
	8. Harga Bahan Baku (Rp./ikat)	1580,76
	9. Sumbangan Input Lain (Rp./Ikat)	1171,93
	10. Nilai Output (Rp./Ikat)	5300
	11. a. Nilai Tambah (Rp./Ikat)	2547,31
	b. Rasio Nilai Tambah (%)	48,06
	12. a. Pendapatan Tenaga Kerja (Rp./Ikat)	39,41
	b. Pangsa Tenaga Kerja (%)	1,55
	13. a. Keuntungan (%)	2507,90
	b.Tingkat Keuntungan (%)	98,45
III	Reply Service Owner Factor Production	
	14. Margin (Rp./Ikat)	3719,24
	a. Labor Revenue (%)	1,06
	b. other Input Contribution (%)	31,50
	c. Employer Profit (%)	67,43

Source: Data Processed, 2017

Based on Table 7, it can be seen that the output obtained for one-time production on broom making is 34.05 and requires an input of 34.05. This means that to produce 34.05 broomsticks, it needs 34.05 bundles of stick. So the ratio between output and input in broom making is 1: 1. The amount of labor used in the manufacture of broomsticks is 1 HKP.

The added value resulting from the production of broomsticks is Rp.2.547,31 derived from the reduction of the output minus the contribution of other inputs and raw materials in Rupiah / bond with the added value ratio of 48.06%. In the variable of repayment the owner of production factor get the margin value equal to Rp.3.719,24 with labor income is 1.06%, contribution of other input 31,50%, and profit of entrepreneur 67,43% thereby reward of owner of highest factor of production obtained businessman.

Comparison of outputs, inputs, labor, added value and margins for production factor owners' fees can be seen in Table 8 below:

Table 8. Comparison of Added Value of VCO (Virgin Coconut Oil) Agroindustry and Production of One Day (Lidi) Swabs in West Aceh District

Comparison	Processed Products	
	Coconut oil	Sweep Lidi
Input	68,33 l	34,05 Ikat
Output	16,51 l	34,05 Ikat
Labor	1,00 HKP	1,00 HKP
Added Value	Rp.2.674,43/l	Rp.2.547,31/Ikat
Margin	Rp.2.905,41	Rp.3.719,24/Ikat

Source: Data Processed, 2017

Based on Table 8 above, it can be seen that the highest amount of input for the processing of VCO (Virgin Coconut Oil) and broom making is on VCO (Virgin Coconut Oil) of 68.31 liters. This means that the largest amount of raw material required is for the processing of VCO (Virgin Coconut Oil) while the amount of raw material for broom stick is 34.05 bundle stick.

The largest volume of output is on broom stick that is equal to 34.05 bundle while the volume of VCO (Virgin

Coconut Oil) output is 16,51 liters. Value added on the processing of VCO (Virgin Coconut Oil) Agroindustry is higher than the broom making that is Rp.2.674,43 / liter. While the added value for broom making is Rp.2.547,31 / Ikat. The value of processing margin of VCO (Virgin Coconut Oil) is Rp.2.905,41 and margin value for broom making is Rp.3.719,24 / tie.

From value added analysis of VCO Agroindustry (Virgin Coconut Oil) and broom making, it is known that the income obtained by coconut processing to VCO (Virgin Coconut Oil) in the research location shows receipt of Rp. 428.266,67 with R / C value equal to 1,16 and acceptance earned on broom making is Rp. 180.465,00 with R / C value equal to 1,30.

Previous research conducted Sakila (2016) with the title research of feasibility analysis of Agroindustrial Virgin Coconut Oil (VCO) which shows the results of research that the total variable cost is Rp. 81,960 / year and the total fixed cost is Rp. 8.295.000 / year, while the total revenue is Rp. 249.6 million and BEP production is 61.75 liter and BEP price is Rp. 12,343,750 / year, and Rp. 1,028,645 / month and Rp. 85.720 / 2 days. Total profit / year is Rp. 159,345,000 / year. With R / C ratio is 3, so it can be concluded that Agroindustry VCO Poktan Anugrah Tandurusa Village experience advantage and financially feasible to be developed because it exceeds BEP and also R / C ratio is> 1.

A study conducted by Wijaya (2009) that examined income and efficiency analysis of VCO (Virgin Coconut Oil) agroindustry in home industry concluded that the R / C ratio of VCO (Virgin Coconut Oil) "irfani VCO" vortex is favorable because of the large R / C ratio > 1. From the above analysis the R / C ratio of 1.62 means that each additional cost of 1 time will get revenue of 1.62. In the sense that each expenditure of a one-time fee will generate revenue of 1.62 times.

This shows that the R / C value of VCO (Virgin Coconut Oil) agro-industry and broomstick production shows a positive value which means that the business is feasible to run. This is in accordance with the statement Suratiyah (2009) which states that if R / C> 1 then the business is feasible to run.

IV. CONCLUSION

From result of data analysis of factors influencing production, value added of VCO (Virgin Coconut Oil) agroindustry, and making of broom stick can be concluded as follows:

1. The number of trees (X1), plant age (X2), labor (X3), and fertilizer (X4) have a positive and significant influence on coconut production in West Aceh district, while Herbicide (X5) has a negative and significant influence on production coconut in West Aceh district.

2. The acceptance of VCO (Virgin Coconut Oil) Agroindustry amounting to Rp. 428,266.67 each time the production with total cost of Rp.369.279,57. Value added for each processing of raw material of VCO (Virgin Coconut Oil) Agroindustry equal to Rp. 2,674,43 / liter. R / C Agroindustry VCO (Virgin Coconut Oil) is 1.16.

3. Acceptance of making broom sticks of Rp. 180.465,00 each time the production with total cost of Rp. 138.466,16. Value added broom making broom Rp. 2,547,31 / ikat. R / C on broom making that is 1.30.

REFERENCE

[1] Alam, Heldy Vanni. 2016. Nilai Tambah Produk Agroindustri Kelapa Sebagai Salah Satu Alternatif Dalam Meningkatkan Pendapatan Petani di Kabupaten Gorontalo. Jurnal Kajian Ekonomi dan Bisnis, Volume 9, Nomor 3, Desember 2016. ISSN : 1979-1607.

[2] Pangkey, Marchel Christian. 2016. Perbandingan Tingkat Pendapatan Petani Kelapa di Kabupaten Minahasa Selatan (Studi Kasus di Desa Ongkaw I dan Desa Tiniawangko Kecamatan Sinonsayang). Jurnal Berkah Ilmiah Efisiensi. Vol. 16. No.02 Tahun 2016.

[3] Fajrin, Moh dan Abdul Muis. 2016. Analisis Produksi Dan Pendapatan Usahatani Kelapa dalam Di Desa Tindaki Kecamatan Parigi Selatan Kabupaten Parigi Moutong. Jurnal Agrotekbis 4 (2) : 210-216, April 2016. ISSN : 2338-3011.

[4] Farray, T, 2011. Analisa Nilai Tambah VCO (Virgin Coconut Oil) pada PT. Bumi Sarimas Indonesia di Sumatera Barat. Sosial Ekonomi Pertanian. Jurusan Sosial Ekonomi Pertanian. Universitas Andalas. Padang.

[5] Handayani, Fitri Sri. 2013. Faktor-Faktor Yang Mempengaruhi Tingkat Kesejahteraan Petani Kelapa Di Nagari Karanji Hilir Kecamatan Sungai Limau Kabupaten Padang Pariaman. Jurnal Program Studi Pendidikan Geografi. Sekolah Tinggi Keguruan Dan Ilmu Pengetahuan. PGRI. Sumatera Barat. Padang.

[6] Hayami, Kawagoe T, Morooka Y, Siregar M. 1987. Agricultural Marketing and Processing in Upland Java A Perpective From A Sunda Village. CGPRT Center. Bogor.

[7] Prihmantoro, Heru. 2005. Memupuk Tanaman Sayur. Penebar Swadaya. Jakarta.

[8] Kristiana, Lia. 2014. Analisis Strategi Pengembangan Agribisnis kelapa Sebagai Komoditi Unggulan di Kecamatan Cidaun Kabupaten Cianjur. Jurnal Agrosains Volume 01, No 01 Tahun 2014. Fakultas Pertanian, Universitas Islam Madura.

[9] Lamusa, Arifuddin, 2005. Faktor-Faktor Yang Mempengaruhi Produksi Kelapa Dalam, Di Desa Labuan Lele Kecamatan Tawaeli Kabupaten Donggala. Jurnal Agroland 12 (3) : 254-260, September 2005. ISSN : 0854-641X.

[10] Neeke, Hasnun, Made Antara, dkk. 2015. Analisis Pendapatan dan Nilai Tambah Kelapa menjadi Kopra di Desa Balubung Kecamatan Bulagi Utara Kabupaten Banggai Kepulauan. Jurnal Agrotekbis 3(4) : 532-542, Agustus 2015. ISSN : 2338-3011.

[11] Patty, Zeth. 2011. Analisis Produktivitas dan Nilai Tambah Kelapa Rakyat (Studi Kasus di 3 Kecamatan di Kabupaten Halmahera Utara). Jurnal Agroforestri, Volume VI Nomor 2, Juni 2016. ISSN : 1907-7556.

[12] Rahman, Sakila, Vicky V. J Palenewen, dkk. 2016. Analisis Kelayakan Agroindustri Virgin Coconut Oil (VCO) Studi Kasus Kelompok Tani Anugrah Kelurahan Tandurusa Kecamatan Aertembaga Kota Bitung. Jurnal Agri-SosioEkonomiUnsrat, ISSN 1907-4298, Volume 12 Nomor 3A, November 2016 : 147 – 158.

[13] Rina S. 2014. Analisis Nilai Tambah Pada Berbagai Jenis Pengolahan Kelapa (Cocos nucifera Linn) di Kabupaten Batubara Kecamatan Tanjung Tiram. Tesis. Program Studi Magister Agribisnis. Fakultas Pertanian. USU. Medan.

[14] Soekartawi. 1990. Teori Ekonomi Produksi, dengan Pokok Bahasan Analisis Fungsi Cobb-Douglas, Rajawali Press, Jakarta.1995. Analisis Usahatani. UT. Press. Jakarta.

[15] Suratiyah. 2009. Ilmu Usaha Tani. Penebar Swadaya. Jakarta.

[16] Tjitrosoedirdjo, Soekisman, dkk. 1984. Pengelolaan Gulma di Perkebunan. PT. Gramedia.Jakarta.

[17] Wardhanu, Adha Panca dan Moh, Anhar, (2012). Strategi Pengembangan Agroindustri Kelapa Sebagai Upaya Percepatan Ekonomi Masyarakat di Kabupaten Ketapang. Jurnal Industria Vol 3 No 1 : 13-26. Politeknik Negeri Ketapang.

[18] Wijaya, Y.G. 2009. Analisis Pendapatan dan Efisiensi Agroindustri Virgin Coconut Oil (VCO) Pada Home Industri “Irfani”. Abstrak. Agribisnis.

[19] Yuniarto, 2008. Analisis Faktor-Faktor yang Mempengaruhi Produksi Bawang Merah Studi Kasus Desa Kendawa, Kecamatan Jatibarang Kabupaten Brebes. Universitas Diponegoro. Semarang.