THE EFFECT OF CAPITAL, LABOR, PRICE AND PRODUCTION OF PALM OIL ON FARMERS' INCOME IN KOTO BALINGKA DISTRICT, PASAMAN BARAT REGERENCY

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Abstract
This study aims to analyze 1) the effect of capital (X1) on the income of oil palm farmers in Koto Balingka District, West Pasaman Regency, 2) the influence of labor (X2) on the income of oil palm farmers in Koto Balingka District, West Pasaman Regency, 3) the influence of prices (X3) on the income of oil palm farmers in Koto Balingka District, West Pasaman Regency and 4) the effect of production (X4) on the income of oil palm farmers in Koto Balingka District, Pasaman Barat District. 5) Influence (X1), (X2) (X3), (X4) Taken together on the income of oil palm farmers in Koto Balingka District, West Pasaman Regency. Based on data obtained from the research results (1) Capital has a significant effect on the income of oil palm farmers (2) labor has a significant effect on the income of oil palm farmers (3) Prices have a significant effect on the income of oil palm farmers (4) Production has a significant effect on the income of oil palm farmers (5) Capital, Labor, Price and Production of palm oil simultaneously have a significant influence on the income of oil palm farmers.

Keywords: Capital, Labor, Price, Production, Farmer Income

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INTRODUCTION

Indonesia is a country with an agricultural background that has abundant natural resource capital, thus providing opportunities for the development of agricultural businesses to grow and develop, including plantation commodities. According to Ansofino (2017) West Sumatra is one of the provinces in Indonesia whose source of income is dominated by the agricultural sector, this can be seen from the West Sumatra PDRB, where the agricultural sector contributes greatly. This is not much different from West Pasaman Regency, where the source of income that contributes greatly to GDP is the agricultural sector.

Gross Regional Domestic Product (GRDP) is one of the important indicators for knowing the overall picture of the economic conditions of a region. GRDP is defined as the amount of added value produced by all business units in a particular area or is the total value of the final goods and services produced by all units. GRDP calculation is distinguished on the basis of current and constant prices. GRDP at current prices illustrates the added value of goods and services that are calculated using prices in the current year, while GRDP at constant prices shows the added value of goods and services that are calculated using prices in a given year as a basis.

Table 1. Gross Regional Domestic Product Based on Current Prices by Regency / City in Sumatra Province Bara (Million Rupiah), 2014 - 2016.

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mentawai</td>
<td>3,016,604,3</td>
<td>3,384,881,7</td>
<td>3,721,507,48</td>
</tr>
<tr>
<td>2</td>
<td>South Pesisir</td>
<td>9,171,506,7</td>
<td>9,936,299,3</td>
<td>10,685,349,85</td>
</tr>
<tr>
<td>3</td>
<td>Solok</td>
<td>9,397,795,6</td>
<td>10,125,791,3</td>
<td>11,046,635,67</td>
</tr>
<tr>
<td>4</td>
<td>Sijunjung</td>
<td>6,472,139,4</td>
<td>7,093,840,3</td>
<td>7,721,367,73</td>
</tr>
<tr>
<td>5</td>
<td>Tanah datar</td>
<td>9,157,859,4</td>
<td>9,875,980,5</td>
<td>10,727,031,18</td>
</tr>
<tr>
<td>6</td>
<td>Padang Pariaman</td>
<td>14,152,718,7</td>
<td>15,820,438,2</td>
<td>17,521,183,33</td>
</tr>
<tr>
<td>7</td>
<td>Agam</td>
<td>13,917,806,9</td>
<td>15,175,809,4</td>
<td>16,520,890,00</td>
</tr>
<tr>
<td>8</td>
<td>Lima Puluh Kota</td>
<td>10,579,324,9</td>
<td>11,578,267,9</td>
<td>12,627,317,65</td>
</tr>
<tr>
<td>9</td>
<td>Pasaman</td>
<td>5,957,998,5</td>
<td>6,425,892,3</td>
<td>6,995,780,32</td>
</tr>
<tr>
<td>10</td>
<td>South Solok</td>
<td>3,889,023,9</td>
<td>4,224,476,6</td>
<td>4,598,324,45</td>
</tr>
<tr>
<td>11</td>
<td>Dharmasraya</td>
<td>7,174,562</td>
<td>7,718,688,9</td>
<td>8,433,539,85</td>
</tr>
<tr>
<td>12</td>
<td>West Pasaman City</td>
<td><strong>10 780 768,3</strong></td>
<td><strong>11 701 479,2</strong></td>
<td><strong>12 795 020,27</strong></td>
</tr>
<tr>
<td>1</td>
<td>Padang</td>
<td>41,295,599,6</td>
<td><strong>44 695 341,2</strong></td>
<td>49,296,193,38</td>
</tr>
<tr>
<td>2</td>
<td>Solok</td>
<td>2,731,265,4</td>
<td><strong>2,965,540,9</strong></td>
<td>3,238,355,20</td>
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<tr>
<td>3</td>
<td>Sawah Lunto</td>
<td>2,543,141</td>
<td>2,724,828,8</td>
<td>2,938,792,97</td>
</tr>
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<td>4</td>
<td>Padang Panjang</td>
<td>2,347,620,8</td>
<td>2,527,794,9</td>
<td>2,773,791,99</td>
</tr>
<tr>
<td>5</td>
<td>Bukit Tinggi</td>
<td>5,628,061,9</td>
<td>6,117,430,7</td>
<td>6,749,791,92</td>
</tr>
<tr>
<td>6</td>
<td>Payakumbuh</td>
<td>4,180,159,4</td>
<td>4,546,297,2</td>
<td>4,983,384,58</td>
</tr>
<tr>
<td>7</td>
<td>Pariaman</td>
<td>3,407,282,2</td>
<td>3,673,391,5</td>
<td>4,004,359,81</td>
</tr>
</tbody>
</table>

| Total Number | 165,801,239,3 | 180,212,471,4 | 197,378,740.62 |

Source: BPS West Pasaman Regency
From the explanation of table 1 above there are 12 Regencies and 7 Cities in West Sumatra Province, from each Regency and City Average (GRDP) Gross Regional Domestic Product at Current Prices by Regency / City in West Sumatra Province (Million Rupiah), 2013 - 2016 every Regency / City always increases every year. Of all regencies/cities in West Sumatra, the biggest contributor to GRDP in West Sumatra Province in the first position is the city of Padang, followed by Agam regency, Padang Pariaman regency, and in the fourth position of West Pasaman Regency. While the smallest contributor is Kota Padang Panjang. West Sumatra carried out the expansion of the last Regency in 2004, namely Pasaman Barat Regency, Dharmasraya Regency, and South Solok Regency in accordance with UUD Number 38 the Year 2003 which reads as follows:

"West Pasaman Regency was Exposed from the District of Pasaman on January 7, 2004, in accordance with Law Number 38 of 2003 concerning the Expansion of the District of Dharmasraya, South Solok Regency and West Pasaman Regency in West Sumatra Province."

If seen from table 1 above the GRDP of the three Regencies has increased every year, namely from 2013 to 2015. As a Regency that has just experienced the expansion of West Pasaman, it has been able to rank fourth in the GRDP of West Sumatra Province, while the District of Dharmasraya occupies a position 9, and South Solok Regency is in position 12. This is what makes researchers interested in making Pasaman Barat the object of research. This type of research is descriptive and associative. With a population of all people who have oil palm plantations in Kanagarian Koto Tuo, there are 73 samples. Sampling using stratified sample techniques. The instrument used for the research is an open questionnaire. Data analysis techniques are descriptive, inductive and multiple linear regression analysis.

According to Mankiw (2013: 347) Revenue is the amount of money received by the company for the sale of its production called total revenue (TR). The amount of money the company must spend to buy production materials is called the total cost (total cost / TC). Profit (profit / π) is the company's total income minus costs, so the total profit reaches the maximum if the positive difference between TR and TC reaches the biggest number. The equation is:

\[ \pi = TR - TC \]

Where:
- \( \pi \) = Income / profit
- TR = Total Revenue
- T = Total Cost / total cost

According to Mankiw (2013: 374), total income is derived from the following equation:

\[ TR = P \times Q \]

Where:
- TR = Total Revenue
- P = Price / Price of Goods
- Q = Quantity / Number of items sold

Total costs are total fixed costs (TFC) reflecting all obligations or costs borne by the company per unit of time on all input variables used, namely:

\[ TC = TFC + TVC \]

Where:
- TC = Total cost
- TFC = Total fixed costs
- TVC = Total variable cost

According to Sukirno (2009: 192)

Revenue or profit is obtained if the sales proceeds exceed production costs and losses will be experienced if the difference between sales and production costs reaches the highest level. Maximizing profits is achieved at the level of production, while the form of the equation is (Sukirno, 2009: 236):

\[ MR = MC \]

Where:
- MR = marginal sales results
RESEARCH METHODS

The type of research used is descriptive and associative research.

Population

The Population In this study, are all people who have oil palm plantations in Kanagarian Koto Tuo, as many as 150 households.

Samples

The number of samples in this study was 73 families with stratified sampling techniques that were based on a narrow land area and wide land area.

Table 2: Number of Samples

<table>
<thead>
<tr>
<th>Land Area</th>
<th>Number of Samples</th>
</tr>
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<tbody>
<tr>
<td>Narrow</td>
<td>37</td>
</tr>
<tr>
<td>Large</td>
<td>36</td>
</tr>
<tr>
<td>Amount</td>
<td>73</td>
</tr>
</tbody>
</table>

*Source: Processed Primary Data, 2018*

The data in the table above can be seen that the characteristics of respondents who are distinguished on the land area which consists of 37 people narrow land and 36 people wide land. Thus it can be concluded that the respondents who became the sample in this study were more dominant narrow land that is 37 people from 36 respondents.

RESEARCH RESULTS AND DISCUSSION

Descriptive Analysis of Income Variables

The opinion of farmers is the result of farmers' acceptance in one harvest in the district of Koto Balingka, West Pasaman Regency. The most are Rp. 3,250,001 - Rp. 4,950,000, which is 20.5% of respondents and at least Rp. 8,350,001 - Rp. 10,050,000, which is 9.6% of respondents with an average income of Rp. 7,788,397.26 the highest income is Rp. 13,700,000 and the lowest income is Rp. 1,550,000.

Descriptive Analysis of Capital Variables

Capital to farmers' income in Koto Balingka District West Pasaman Regency at most Rp 1,400,000 - Rp 4,670,000 is 26% of respondents and at least Rp. 21,020,000 - Rp. 24,300,000 which is 2.7% of respondents with an average capital of Rp. 9,207,136,986 with the highest capital of IDR 24,300,000 and the lowest capital of IDR 1,400,000.

Descriptive Analysis of Labor Variables

The workforce on the income of farmers in Koto Balingka District, West Pasaman Regency, is at most 2-5 years, namely 57.5% and at least 6-8 people, namely 42.5% of respondents with an average workforce of 5 people, the most labor many are 8 people and at least 2 people.

Descriptive Analysis of Price Variables

The price of farmers' income in Koto Balingka District, Pasaman Barat Regency is at most 1200, namely 30.1% of respondents and the least is 1400, which is 2.7% with an average of 1309.86, the highest price is 1500 and the lowest price is 1200.

Descriptive Analysis of Production Variables

The highest production of farmers' income in Koto Balingka District, West Pasaman Regency is 0.8 to 1.8 tons, 34.2% of respondents and at least 3-4 tons, which is 2.7% with an average of 3.8 tons, production of at most 8 tons and production of at least 0.8 tons.

Effect of Capital on the Revenue of Oil Palm Farmers in Koto Balingka District, West Pasaman Regency.

Based on the research results obtained obtained value of capital regression coefficient of 0.247 and t<sub>count</sub> of 7.224 > t<sub>table</sub>
of 1.995 while significant value of 0.000 \(<\alpha\) 0.05, meaning that Ha is accepted and H0 is rejected thus it can be said that there is an influence between capital to oil palm farmers' income in Koto Balingka Subdistrict, West Pasaman Regency, and the variable of capital is very influential on income, especially on narrow land because the coefficient is 0.337 with \(t_{\text{count}}\) 2.628. The large land will increase compared to narrow land. On the side of the large land, capital is very sensitive compared to narrow land.

In line with the research conducted by Mawardati (2015) on Analysis Factors Affecting the Income of Pinang Farmers in Sawang District, North Aceh District. Capital is one of the factors of production that contributes to production, production can increase because of the use of efficient production machinery, when production increases, income will also increase. In the production process, there is no difference between own capital and loan capital, each of which contributes to production. (Mayoli, 2017).

**Effect of labor on the Revenue of Oil Palm Farmers in Koto Balingka District, West Pasaman Regency.**

Based on the research, the results of the regression coefficient of Labor is 0.174 and the value of \(t_{\text{count}}\) is 3.607> \(t_{\text{table}}\) of 1.995, while the significant value is 0.001 \(<\alpha\) 0.05, meaning that Ha is accepted and H0 is rejected. oil palm in Koto Balingka District, West Pasaman Regency and Labor variable is very influential on income, especially narrow land because the coefficient is 0.128 with \(t_{\text{count}}\) 2.480. The narrow land will increase compared to large land. On the Labor side, the narrow land is very sensitive compared to large land.

Based on the descriptive analysis of the farmer's workforce at most is 2-5 years, namely 57.5% and at least 6-8 people, namely 42.5% of respondents with an average workforce of 5 people, the most labor is 8 people and at least 2 people. In line with the previous research conducted by I Putu Danenra Putra, (2015) concerning the Influence of Capital, and Labor on Revenue with Length of Business As a Variable Moderating obtained results, there is the influence of labor on income. Labor is one of the important factors in production agriculture, because labor is another driving factor of input, without labor other factors of production will be meaningless. By increasing, labor productivity will encourage increased production so that income will also increase. Especially traditional farmers, labor and skills, as well as creative creativity are low. Although the work of farmers quickly brings results, often the income does not meet their household needs. (Lamia, 2013)

The assumption of the researchers on the results of the study that there is an influence of labor on income where with a large amount of energy and quality, it will increase the yield automatically will increase the income of oil palm farmers in Koto Balingka District, West Pasaman Regency.

**Effect of Price on Revenue of oil palm farmers in Koto Balingka District, West Pasaman Regency.**

Based on the research results obtained obtained regression coefficient value of 0.267 and \(t_{\text{count}}\) of 3.827> \(t_{\text{table}}\) of 1.995 while significant value of 0.000 \(<\alpha\) 0.05, meaning that Ha is accepted and H0 is rejected thus it can be said that there is an influence between the price of the income of oil palm farmers in Koto Balingka Subdistrict, West Pasaman Regency, the price variable is very influential on income, especially narrow land because the coefficient is 0.905 with \(t_{\text{count}}\) 3.676. The narrow land will increase compared to large land. On the price side, the narrow land is very sensitive compared to large land.
According to (Phahlevi, 2013) prices affect the income if the price is high then the income will increase otherwise if the price drops then the income will decrease. if the demand for production is high, the price at the farmer level will also be high, so that with the same cost, the farmer will get a higher income, on the contrary, if the farmer has succeeded in increasing production but the price falls down then the farmer's income will also decrease. So the price is a determining factor that can affect the income of oil palm farmers, from the level of the selling price of palm oil can determine how much income the farmer will get to meet his needs. This means that the lower the selling price of palm oil the less income that will be obtained by farmers, and vice versa, the higher the selling price of palm oil, the farmers' income will be high too. (Miranda, Lumangkun, & Husni, 2015).

Effect of Production on Revenue of oil palm farmers in Koto Balingka District, West Pasaman Regency.

Based on the research results obtained regression coefficient of 0.264 and t_count of 1.503 > t_table of 1.995 while the significant value of 0.137 < α 0.05, meaning that Ha is rejected and H0 is accepted thus it can be said that there is no effect between production of oil palm farmers' income in Koto Balingka Subdistrict, West Pasaman Regency and production variables have an effect on income, especially narrow land because the coefficient is 0.271 with t_count 2.627 Narrow land will increase compared to large land on the production side, narrow land is very sensitive compared to large land.

In line with the previous research conducted by Nova Tumoko, (2013) on Analysis of Tomato Farming Income in West Kawangkoan District, Minahasa District. According to (Tumoko, 2013), the amount of production has a significant influence on the level of income of farmers. So, if farmers increase the amount of production, farmers' income will also increase. Production yields are income or net income earned by the community from their work as farmers. Production yield will determine or describe the extent to which income can meet the needs of everyday life for the farming community. Because if the production is small, the income that will be received will also be small. If the income is low, the need will not be fulfilled, but if the production yield is large, then the income will also be large and able to meet the needs of life and the community can also save or save the money.


Based on the research, the results of F_count 30,023 > F_table 2.74 and significant value 0,000 <0,05. This means that H0 is rejected and Ha is accepted, thus it can be said that Capital, Labor, Price and Production of palm oil on the income of oil palm farmers in Koto Balingka District, West Pasaman Regency with R square value of 0.617, which means 61.7% changes in The dependent variable (Revenue) can be explained by independent variables (Capital, Labor, Price, and Production) while the remaining 38.3% is influenced by other variables not included in this study.

According to (Rosydi, 2009) factors that influence farmers' income include Price because high prices generate more income for one unit sold, if prices go down then income also decreases and it is better if prices rise then income also increases while according to states that if the demand for production is high, the price at the farmer level will be high too, so that with the same cost farmers will get a higher income. Conversely, if the farmer has succeeded in increasing production, but the price falls then the income of the farmer will also decrease.
Effect of Capital, Labor, Price, and Production of Palm Oil Narrow Land and Land Area to Income (Y) of farmers in Koto Balingka District, West Pasaman Regency.

a. From the results of hypothesis testing shows that the Capital Area (X1) has a significant effect on the income of oil palm farmers in Koto Balingka sub-district, West Pasaman Regency. What is indicated by the coefficient value is 0.120. Based on data analysis for large land obtained $t_{\text{count}} = 2.001 > t_{\text{table}} = 1.695$. With a significant value of 0.025 < $\alpha = 0.05$ means that $H_a$ is accepted and $H_0$ is rejected. While for Narrow Capital Land (X1) it has a significant effect on the income of oil palm farmers in Koto Balingka sub-district, West Pasaman Regency. What is indicated by the coefficient value is 0.337. Based on data analysis for narrow land, the $t_{\text{count}}$ value is 2.628 > $t_{\text{table}} = 1.693$. With a significant value of 0.061 > $\alpha = 0.05$ means that $H_a$ is accepted $H_0$ is rejected.

b. From the results of the hypothesis test shows that the Labor Area (X2) has a significant effect on the income of oil palm farmers in Koto Balingka sub-district, West Pasaman Regency. What is indicated by the coefficient value is 0.119. Based on data analysis for large land, it is obtained the value of 2.001, $t_{\text{count}} > t_{\text{table}} = 1.695$. With a significant value of 0.027 > $\alpha = 0.05$, it means that $H_a$ is accepted and $H_0$ is rejected. While for the Narrow Workforce Land (X2) it has a significant effect on the income of oil palm farmers in Koto Balingka sub-district, West Pasaman Regency. The coefficient value is 0.271. Based on data analysis for narrow land obtained $t_{\text{count}} = 2.267 > t_{\text{table}} = 1.693$ with significant value 0.529 < $\alpha = 0.05$ means $H_a$ accepted $H_0$ is rejected.

c. From the results of hypothesis testing shows that in the wide area of price (X3) has a significant effect on the income of oil palm farmers in the district of Koto Balingka, West Pasaman Regency. What is indicated by the coefficient value is equal to 0.004? Based on data analysis for large land obtained $t_{\text{count}} = 2.147 > t_{\text{table}} = 1.695$. With a significant value of 0.004 < $\alpha = 0.05$ means $H_a$ accepted and $H_0$ rejected. While for the Narrow Price Land (X3) has a significant effect on the income of oil palm farmers in Koto Balingka sub-district, West Pasaman Regency. What is shown by the coefficient value is 0.090. Based on data analysis for narrow land, the $t_{\text{count}}$ value is 3.676 > $t_{\text{table}} = 1.693$ with significant value 0.004 $\alpha < 0.05$ means $H_a$ is accepted $H_0$ is rejected.

d. From the results of hypothesis testing shows that the Production Area (X) has a significant effect on the income of oil palm farmers in Koto Balingka sub-district, West Pasaman Regency. What is indicated by the coefficient value is equal to 0.596? Based on data analysis for large land, the value of $t_{\text{count}} = 2.213 > t_{\text{table}} = 1.695$. With a significant value of 0.034 > $\alpha = 0.05$ means that $H_a$ is accepted and $H_0$ is rejected. As for the Production Narrow Land (X4), it has a significant effect on the income of oil palm farmers in Koto Balingka sub-district, West Pasaman Regency. The coefficient value is 0.271. Based on data analysis for narrow land obtained $t_{\text{count}} = 2.267 > t_{\text{table}} = 1.693$ with significant value 0.529 < $\alpha = 0.05$ means $H_a$ accepted $H_0$ is rejected.

e. From the results of the test $F_{\text{count}}$, we can see that for the land area $F_{\text{count}} = 2.538 > F_{\text{table}} = 2.89$ and a significant value of 0.000 < 0.05. This means that $H_0$ is rejected and $H_a$ is accepted. As for the narrow land, the value of $F_{\text{count}} = 4.199 > F_{\text{table}} = 2.88$ and the significant value is 0.000 < 0.05. This means that $H_0$ is rejected and $H_a$ is accepted.
accepted. Thus it can be said that capital, labor, price and palm oil production affect the income of oil palm farmers in Koto Balingka District, West Pasaman Regency.

CONCLUSION
Based on the results of the research questions that have been submitted and analyzed, it can be concluded as follows: Capital has a significant effect on the income of oil palm farmers, labor has a significant effect on the income of oil palm farmers, Prices have a significant effect on the income of oil palm farmers, Production has a significant effect on the income of oil palm farmers and Capital, Labor, Price and Production of palm oil simultaneously have a significant influence on the income of oil palm farmers

REFERENCE


