

**THE INFLUENCE OF SOCIO-ECONOMIC FACTORS ON CORN FARMERS' INCOME.
A CASE STUDY ON SAMA RASA FARMERS GROUP DI DESA OESAO,
KECAMATAN KUPANG TIMUR, KABUPATEN KUPANG.**

**(Pengaruh Faktor Sosio-Ekonomi Terhadap Pendapatan Petani Jagung. Studi Kasus
Kelompok Petani Sama Rasa di Kecamatan Oesao, Kabupaten Kupang Timur, Kabupaten
Kupang.)**

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ABSTRACT

This study aims to: 1) Determine the income of corn farmers, 2) Determine the influence of socio-economic factors on the income of corn farmers in the Sama Rasa Farmers Group, Oesao Village, East Kupang Sub-district, Kupang Regency. The location was deliberately (purposely) chosen in Oesao Village, East Kupang Sub-district, Kupang Regency. The population consists of 36 farmers. The sample was determined using the total sampling technique, resulting in a sample of 36 farmers. The type of data used is quantitative data with income analysis and multiple linear regression analysis to answer the influence of socio-economic factors on corn income. The results of the study showed that the average corn production per farmer was 1,406.2 kg and the average production per hectare was 1,181.4 kg. The average income per corn farmer was IDR 7,469,372 and the average income per hectare was IDR 63,753,208. Of the seven socio-economic factors, there are four socio-economic factors that are It has a very significant effect on corn income, namely land area, capital, labor, and education level. Meanwhile, the three variables that do not have a significant effect on corn income are age, family dependents, and marital status. The agricultural sector has a very important and strategic role in providing staple food and employment opportunities, and it also becomes a driver for economic growth for the community, especially in the Oesao Sub-district of Kupang Regency. In East Kupang Regency, Oesao Sub-district is one of the areas that produces a substantial amount of corn, considering that this area has a climate, type of soil, and land area suitable for this crop. The goal of development is not only to increase income. Efforts to increase income are very important but do not occur independently.

Keywords: Corn, Income, Influence.

ABSTRAK

Penelitian ini bertujuan untuk: 1) Menentukan pendapatan petani jagung, 2) Menentukan pengaruh faktor sosial ekonomi terhadap pendapatan petani jagung di Kelompok Petani Sama Rasa, Desa Oesao, Kecamatan Kupang Timur, Kabupaten Kupang. Lokasi penelitian dipilih secara sengaja (purposif) di Desa Oesao, Kecamatan Kupang Timur, Kabupaten Kupang. Populasi penelitian terdiri dari 36 petani. Sampel ditentukan menggunakan teknik pengambilan sampel total, menghasilkan sampel sebanyak 36 petani. Jenis data yang digunakan adalah data kuantitatif dengan analisis pendapatan dan analisis regresi linier berganda untuk menjawab pengaruh faktor sosial ekonomi terhadap pendapatan jagung. Hasil penelitian menunjukkan bahwa rata-rata produksi jagung per petani adalah 1.406,2 kg dan rata-rata produksi per hektar adalah 1.181,4 kg. Rata-rata pendapatan per petani jagung adalah Rp 7.469.372 dan rata-rata pendapatan per hektar adalah Rp 63.753.208. Dari tujuh faktor sosial-ekonomi, terdapat empat faktor sosial-ekonomi yang memiliki pengaruh sangat signifikan terhadap pendapatan jagung, yaitu luas lahan, modal, tenaga kerja, dan tingkat pendidikan. Sementara itu, tiga variabel yang tidak memiliki pengaruh signifikan terhadap pendapatan jagung adalah usia, tanggungan keluarga, dan status perkawinan. Sektor pertanian memiliki peran yang sangat penting dan strategis dalam menyediakan pangan pokok dan lapangan kerja, serta menjadi penggerak pertumbuhan ekonomi bagi masyarakat, khususnya di Kecamatan Oesao, Kabupaten Kupang. Di Kabupaten Kupang Timur, Kecamatan Oesao merupakan salah satu daerah penghasil jagung dalam jumlah besar, mengingat daerah ini memiliki iklim, jenis tanah, dan luas lahan yang

sesuai untuk tanaman ini. Tujuan pembangunan bukan hanya untuk meningkatkan pendapatan. Upaya peningkatan pendapatan sangat penting tetapi tidak terjadi secara mandiri.

Kata Kunci : Jagung, pendapatan, pengaruh

INTRODUCTION

Agriculture is the largest sector in almost every developing country's economy. This sector provides food for most of the population and offers employment opportunities, as well as being utilized for Biofuel (BBN). The structural transformation of Indonesia's economy towards industrialization does not automatically establish an agrarian nuance. In addition to providing food needs for the population and labor, the agricultural sector is a supplier of raw materials for the industrial sector and serves as a source. Corn plants have long been cultivated in Indonesia; moreover, for the development of corn crops, several superior corn varieties have been produced to obtain corn offspring with a short harvest period, large fruits, and large cobs (Muda dkk., 2022).

Agricultural development is an inseparable part of national development, which has a central role because it contributes to laying a solid foundation for the country's economy. This is shown by the large number of people or workforce employed in the agricultural sector. The 2013 agricultural census shows that out of 237 million people in Indonesia, around 45.3 percent work in the agricultural sector. The agricultural sector is highly expected to drive economic growth, both as a provider or source of industrial raw materials and as a main sector of Indonesia besides oil and gas. (Hari Larmintho, 2021). The use of corn as food and feed still reaches an increase. Meanwhile, its availability is limited, cultivation and productivity improvement. From the implementation of farming, one of the farmers' goals is to obtain the maximum possible income (Rangkuti & Siregar, 2018).

Farm income will be influenced by farming costs, while the amount of production is always influenced by external factors and also influenced by internal factors (Surahman, 2024). The importance of the agricultural sector in development is to provide. Corn is a food crop commodity that is familiar to the people of NTT because it serves as an alternative food to replace rice. In addition, its availability in the market seems to never run out (end) because it is available throughout the season. Oesao Subdistrict is one of the corn-producing towns in East Kupang Regency, but in reality, not all corn farmers live in better conditions, and with the same land area, there are differences in the income levels generated by corn farmers.

Corn is one of the important food ingredients because it is the second most important source of carbohydrates after rice. In Indonesia, besides being a food ingredient and an industrial raw material, corn is also a source of feed for livestock. Corn plants have been well-known and cultivated for a long time in Indonesia, and through the development of corn plants, several superior corn varieties have been produced that result in short-harvest offspring, large fruits, large cobs, with a starchy and sweet taste when boiled or processed into various foods. This is supported not only by the environment, which as a growth requirement allows corn plants to thrive, but also because the care and reproduction of corn plants are relatively easy and simple. It all depends on how the cultivation practices are carried out, which will affect the quantity and quality of corn plant production (Ardiansyah et al., 2022).

A type of commodity that can be cultivated by the people is corn. Apart from local consumption, the crop that was even exported in 2000 also helps increase the country's foreign exchange. In Indonesia, besides being a food ingredient and industrial raw material, corn is a source of animal feed. Corn plants have long been cultivated in Indonesia; moreover, for the development of corn plants, several superior corn varieties have been produced to obtain corn offspring with a short harvest period, large fruit, and large cobs. The use of corn as food and feed is still increasing. Meanwhile, its availability is limited, as are planting and productivity improvements. For the market, the potential for corn marketing is likely to increase. This can be seen from the growing livestock industry, which will eventually increase the demand for old corn as animal feed mixture (Rangkuti et al., 2021).

Income is the difference between the value of production and the total costs incurred. Gross agricultural income at a certain time is the total value of agricultural production, whether sold or unsold. Gross income is all income generated in a production process by accounting for expenses

during the cultivation of farmland. With a focus on the development of corn farming, it needs to receive more serious attention. This is because corn has a fairly bright prospect as government markets increasingly improve both quality and quantity. In accordance with the development of needs for livestock feed, poultry, and consumption to meet the demand for carbohydrates.

The government's target in agricultural development is to increase production that can drive an increase in agricultural income; therefore, all activities in the agricultural sector are aimed at enhancing farmers' ability to produce to meet their families' needs. Besides increasing production, the agricultural sector is also always aimed at expanding job opportunities or employment as well as increasing exports.

The Oesao sub-district has potential in corn commodities, so the development of farming this crop needs to be continuously improved, including by utilizing the available resources to make farming more efficient. As we know, the agricultural sector is highly relied upon as one of the pillars in improving the community's economy, this is because the agricultural sector plays a very important and strategic role in providing staple food and employment opportunities, and it also serves as an attractor for economic growth for the community, especially in the Oesao sub-district of Kupang Regency. As one of the corn development areas in East Nusa Tenggara with a harvested area in 2020 of 1,947 ha and an average production of 3 tons/ha, the resulting productivity was 1.540 tons/ha. (BPS, NTT, 2021). In East Kupang Regency, Oesao Village is one of the areas that produces a significant amount of corn, considering that this area has a climate, soil type, and land area suitable for this crop. The purpose of development is not only to increase income. Efforts to increase income are very important but do not occur on their own (Firmansyah & Meidy Haviz, 2024).

This research aims to show the necessity of knowing what factors play a role in increasing farmers' income and the need to improve the variables of corn farmers' income in Oesao village so that farmers' income can increase. From the data, there are no research results that can provide information about the amount of corn farmers' income in Oesao village. Therefore, it is necessary to conduct research to find out the income of corn farmers in that area.

RESEARCH METHOD

Data analysis is a systematic process to break down and process data so that good conclusions can be drawn. In this study, researchers collected data using the methods (1) interviews; in this context, interviews were conducted with corn farmers so that the data obtained would have validity, using questionnaires that had been prepared, and (2) observation; in this study, the researcher directly observed the research object. (Hasnani dkk., 2023), but also directly engage in the data collection process by interacting directly with corn farming. And (3) documentation, which consists of written notes that document various activities or events that have occurred. The research data is analyzed using the following analysis methods:

1. To answer the first objective, which is to know the amount of income obtained from the corn farming business being run, it can be formulated as follows (Neloe & Sinu, 2018) :

1) Total Cost

$$TC = TFC + TVC$$

Description:

TC = Total Cost

TFC = Total Fixed Cost TVC

= Total Variable Cost

2) Penerimaan

$$TR = P \cdot Q$$

Description:

TR = Total Revenue

P = Price

Q = Quantity

3) Pendapatan

$$I = TR - TC$$

Description:

I = Income
 TR = Total Revenue
 TC = Total Cost

2. To achieve the second goal, namely to determine the effect on corn farmers' income, multiple linear regression is used (Chozin & Mahmudin, 2024).

Multiple Regression Equation

This data is analyzed using the Multiple Linear Regression method with the following formula:

$$Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + e$$

Where :

Y	= Income
b1, b2, b3, b4, ...	= Regression coefficients
α	= Constant
e	= Error term
X1	= Land Area (Ha)
X2	= Capital (Rp)
X3	= Labor (HKO)
X4	= Farmer's Age (years)
X5	= Farmer's Education Level (years)
X6	= Family Dependents (persons)
X7	= Marital Status (single/married)

RESULTS AND DISCUSSION

Income Analysis of corn farmers, Income Analysis in this study is used to determine the amount of income of respondents among Corn Farmers carried out in the Sama Rasa Farmers Group, Oesao Village, East Kupang District, Kupang.

Table 1. Average Corn Production Costs Per Farmer and Per Hectare in Oesao Village

Costs	Unit	Average Per Farmer	Per Hectare
Seed Costs	Rp	253.300	2.122.835
Pesticide Costs	Rp	217.222	1.824.970
Labor Costs	Rp	698.875	1.626.300
Fertilizer Costs	Rp	139.094	600.525
Equipment Depreciation Costs	Rp	349.427	746.791
Total Production Costs	Rp	1.644.279	8.133.605

Source: Primary Data Analysis Results, 2024

Based on Table 1, it can be seen that the cost of corn production consists of seed costs per farmer of Rp 253,300 and per hectare of Rp 2,122,835, pesticide costs per farmer of Rp 217,222 and per hectare of Rp 1,824,970, labor costs per farmer of Rp 698,875 and per hectare of Rp 1,626,300, fertilizer costs per farmer of Rp 139,094 and per hectare of 600,525, equipment depreciation costs per farmer of Rp 394,427 and per hectare of 746,791. So the average total production cost per farmer is Rp 1,644,279 and per hectare is Rp 8,133,605.

Table 2. Average Corn Production Costs Per Farmer and Per Hectare in Oesao Village

No	Description	Unit	Average Per Farmer	Per Hectare
1	Production	Kg	1406.2	1181.4

2	Price	Rp	6.000	6.000
3	Revenue	Rp	8.437.500	70.886.814

Source: Primary Data Analysis Results, 2024

Based on Table 2, it shows that the total corn production generated in one planting season per farmer is 1406.2 kg per hectare 1181.4 kg. With a selling price of Rp.6,000, the corn farming income per farmer is Rp.8,437,500 and per hectare is Rp 70,886,814.

Table 3. Corn Farmers' Income in 2024

No	Description	Unit	Average Per Farmer	Per Hectare
1	Production	Kg	1.431.25	1.202.45
2	Price	Rp	6.000	6.000
3	Acceptance	Rp	8.587.500	70.886.814
4	Total Production Cost	Rp	891.875	7.493.000
5	Income	Rp	7.469.375	62.753.208

Source: Primary Data Analysis Results, 2024

Income is obtained by subtracting total costs from revenue. The revenue earned per farmer is Rp 8,587,500 per hectare, totaling Rp 70,886,814, while looking at the income per farmer it is Rp 7,469,375 per hectare, totaling Rp 62,753,208. This proves that corn farmers have the potential as a source of income for farmers to improve their welfare and for the development of the agricultural sector. (Triadmajani & Djohar, 2021).

Multiple Linear Regression Analysis in the Sama Rasa Farmers Group, Oesao Subdistrict

Table 4. Results of Multiple Linear Regression Analysis on Corn Income in Oesao Subdistrict

Variabels	Unstandardized Coefficients (B)	Significant	T
Constants	6,394	0,000	0,436
Land Area (X1)	0,254	0,055	1,999
Capital (X2)	0,337	0,027	2,342
Labor (X3)	0,544	0,002	3,474
Age (X4)	-0,039	0,767	0,299
Education Level (X5)	0,301	0,013	2,642
Family Dependents (X6)	-0,047	0,706	0,381
Marital Status (X7)	0,177	0,369	0,914
$R^2 = 0,651$			
Adjusted R Square = 0,563		Significant =	0,000

Source: Multiple Linear Regression Analysis Results, 2024

Based on Table 4. The results of the analysis using Multiple Regression show that the coefficient or parameter values are a of 6.394, b1 of 0.254, b2 of 0.337, b3 of 0.544, b4 of -0.039, b5 of 0.301, b6 of -0.047, and b7 of 0.177, so the obtained regression equation is: $Y_i = 6.394 +$

$$0.254 X_1 + 0.337 X_2 + 0.544 X_3 + 0.039 X_4 + 0.301 X_5 + -0.047 X_6 + 0.177 X_7.$$

The obtained regression equation shows that the income factors that influence corn income are:

1) Land Area (X1)

Land area has a significant effect on corn production at a 10% confidence level, where the probability is $0.000 < 0.1$. If the corn farming land area increases by 1 are, corn income will increase by 0.254 Kg.

2) Capital (X2)

- Capital has a significant effect on corn production at a 10% confidence level, where the probability is $0.05 < 0.1$. If corn farm capital increases, corn income will increase by 0.037.
- 3) Labor
Labor has a significant effect on corn production with a confidence level of 10%, where the probability is $0.02 < 0.1$. The more labor used, the higher the corn revenue spent on paying that labor, amounting to 0.054 Rp.
- 4) Age (X4)
Age does not have a significant effect on corn production at the 10% confidence level, where the probability is $0.767 > 0.1$. Even looking at the negative coefficient, if age increases by 1 year, corn revenue will decrease by -0.039 Kg.
- 5) Education Level (X5)
Education level has a significant effect on corn production with a 10% confidence level, where the probability is $0.01 < 0.1$. If a farmer's education increases by 1 year, corn revenue will increase by 0.301 Kg.
- 6) Family Dependents (X6)
The number of family dependents has no significant effect on corn production at a 10% confidence level, where the probability is $.706 > 0.1$. Even when looking at the negative coefficient, if the number of family dependents increases by 1 person, it will reduce corn income by -0.047 Kg.
- 7) Marital Status (X7)
Marital status has no significant effect on corn production at a 10% confidence level, where the probability is $.369 > 0.1$. Looking at the coefficient, if marital status increases by 1 person, it will reduce corn income by 0.177.

Table 5. Results of Partial Test (t-Test) on Corn Farmers' Income in Oesao Subdistrict

Variabels	B	Std. Error	Beta	T	Sig.
Constants	6,394	0,146		4,36	0,000
Land Area (X1)	0,131	0,656	0,254	1,999	0,055
Capital (X2)	0,876	0,374	0,337	2,342	0,027
Labor (X3)	0,385	0,110	0,544	3,474	0,002
Age (X4)	0,589	0,197	0,039	299	0,767
Education Level (X5)	0,114	0,433	0,301	2,642	0,013
Family Dependents (X6)	0,464	0,121	0,047	381	0,706
Marital Status (X7)	0,513	0,562	0,117	914	0,369

Source: Processed Primary Data (2024)

- Land Area in Relation to Corn Income
The figure 0.131 in the Unstandardized Coefficients (B) column indicates the regression coefficient (parameter). This shows that for every increase in land area, there will be an increase in corn production of 0.131 kg.
Based on the results of the multiple linear regression in Table 5. conducted using the IBM SPSS 23 application, the estimation results show that the significance value of land area is $0.055 < 0.10$, so based on the decision criteria H_0 is rejected and H_1 is accepted. These estimation results can be concluded that partially the variable of land area (X1) has a very significant influence on corn income (Y).
- Capital on corn income
Based on the analysis results, it can be seen that the figure in the Unstandardized Coefficients (B) column for the capital variable is 0.876. The estimation results show that for every increase in capital, there will be an increase in corn production of 0.876 kg.
In Table 4.13, it can be seen that the significance value of the capital variable is $0.027 < 0.10$,

so H_0 is rejected and H_1 is accepted. Therefore, based on these estimation results, it can be concluded that the capital variable (X_2) partially has a very significant effect on corn income (Y).

3. Labor on corn income

Based on the analysis of the figures in the Unstandardized Coefficients (B) column for the labor variable, it shows a positive parameter coefficient of 0.385. This indicates that for every increase of 1 HKO (Man-Day Work) in labor, corn production will increase by 0.385 kg, assuming other variables remain constant.

In Table 4.13, the estimation results show the significance value of the labor variable is

$0.002 < 0.10$, so H_0 is rejected and H_1 is accepted. This can be concluded that partially, the labor variable (X_3) has a very significant effect on corn income (Y).

4. Education level on corn income

The research results in the Unstandardized Coefficients (B) column show that the value of the education level variable is 0.114, which is positive. This means that for every 1-year increase in education level, there is an increase in production of 0.114 kg, assuming other variables are constant.

In Table 4.13, the regression results show the significance of the education level variable is $0.013 > 0.10$, so H_0 is accepted and H_1 is rejected. Therefore, it can be concluded that the education level variable (X_5) has a significant effect on corn income (Y).

CONCLUSION AND RECOMMENDATION

Conclusion

The following are the conclusions that can be drawn based on the results of the study:

1. The average corn production per farmer in Oesao Subdistrict is 1406.2 kg and the average corn production per hectare is 1181.4 kg, resulting in a total production of 50,625 kg from a total of 36 farmers. The average income per corn farmer in Oesao Subdistrict is Rp 7,469,372 and the average income per hectare is Rp 63,753,208. With a production period of 3 months, the monthly income of farmers is Rp 2,489,791.
2. There are four socio-economic factor variables that have a significant effect on corn income, namely land area, capital, labor, and education level.

Recommendation

1. It is hoped that there will be attention from the relevant parties to provide things like outreach to supply good seeds and capital assistance. This way, farmers can increase their income, which will ultimately support their earnings. Farmers' income is greatly determined by the amount of income at that time.
2. For the government and extension services, they must maintain and increase the use of land and labor. With farmers who have extensive land and a high level of education, they can gain more knowledge so that farmers can increase the scale of their farming operations in corn production.

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