# Analysis of Oil Palm Farming Results on Community Welfare In Huristak District Padang Lawas Regency

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## ARTICLE INFO

## ABSTRACT

The plantation sector, which includes coffee, pepper, rubber, and palm oil, has quite good prospects for the lives of farmers. One of the plantation commodities that has relatively high value and can support the Indonesian economy is palm oil. Palm oil is a plantation commodity important for income and employment and a source of foreign exchange because palm oil has high economic value. However, the many job opportunities provided by the agricultural sector are a challenge among the community due to the low level of education and knowledge about technology, which is still taboo, causing people in Huristak District to become agricultural laborers on oil palm farming land with a low level of productivity. This research aims to determine the factors of experience, education, skills, income, palm oil prices, production, labor, and productivity relevant to improving community welfare in Huristak District, Padang Lawas Regency. Data processing uses Confirmatory factor analysis (CFA) and Multiple Linear Regression. The results of the Confirmatory Factor Analysis (CFA) test in the KMO and Bartlett's test tables show that the factors of palm oil price, experience, income, and skills significantly affect the community's welfare in Huristak District.

In contrast, education, production, labor, and productivity have a negative or insignificant effect on welfare. The people of Huristak District. The results of multiple linear regression testing show that simultaneous hypothesis testing of palm oil prices, experience, income, and skills together have a positive and significant effect on the welfare of the people of Huristak District.

Keywords: prices, experience, income, skills, welfare.

## 1. Introduction

The plantation sector, which includes coffee, pepper, rubber, and palm oil, has quite good prospects for the lives of farmers. One of the plantation commodities that has relatively high value and can support the Indonesian economy is palm oil. Palm oil is a plantation commodity important for income and employment and a source of foreign exchange because rubber has high economic value. (Nasution Z., 2020)

In North Sumatra, oil palms are in second place as a contributor to agricultural products with the most considerable profits. The agricultural sector is a significant source of employment. Moreover, there is an ample opportunity to create food security and ease the availability of other agricultural commodities. (Nasution Z., 2020)

Globally, the role of agriculture has become crucial so that it is included in the Sustainable Development Goals (SDGs). The TPB contains 17 goals and 169 targets, expected to be achieved by 2030. One of the TPB goals related to the agricultural sector is "No Hunger": Eliminating hunger, achieving food security and good nutrition, and improving sustainable agriculture.

The Sustainable Development Goals (TPB)/Sustainable Development Goals (SDGs) are development that maintains the continuous improvement of the economic welfare of the community, development that maintains the sustainability of the social life of the community, development that maintains the quality of the environment and development that guarantees justice and the implementation of governance that can maintain improving the quality of life from one generation to the next.

The role of palm oil commodities is in the 3rd most prominent position in the Indonesian economy because palm oil can absorb 5.11% of the workforce, open up employment

opportunities, and increase income among the community. It can also be used as a daily staple after processing, including margarine and butter, soap, detergent, instant noodles, bread, and cakes. Palm oil is also the main ingredient for cooking oil, so a sustainable supply will maintain the stability of cooking oil prices. (Hasibuan, 2020)

This is important because cooking oil is one of society's nine essential commodities, so the price must be affordable for all levels. As one of the mainstay commodities for non-oil and gas exports, the production and processing processes can also create job opportunities and improve community welfare.

Huristak District is in Padang Lawas Regency, North Sumatra Province, Indonesia. This sub-district has many oil palm plantations, which are one of the primary sources of income for the local community, especially the community in Tanjung Baringin Village.

Economic development is dominated by agricultural activities, and land use for agricultural activities is essential. This sector provides food for most of the population, provides employment for almost the entire workforce, produces raw materials, and is a source of foreign exchange earnings for the country.

Oil palm plantation activities and their derivative products can provide high value in the economic sector because oil palm provides higher income to farmers than other plantation crops.

However, although palm oil is profitable, it does not always positively impact local communities' welfare. Several problems related to the analysis of oil palm farming's effects on community welfare in Huristak District include low wages for palm oil workers, a commodity requiring a large workforce. However, workers' wages on plantations often need to be higher and more adequate. Even though farmers are one of the parties who utilize palm oil agricultural products, they often do not get the prosperity they should get.

Oil palm plantations also negatively impact the environment, causing forest destruction, land degradation, and water pollution. Palm oil companies sometimes engage in unfair business competition, such as monopolizing prices or providing better facilities only to certain parties.

People who work in this sector generally have low productivity. Low income affects farmers' ability to raise capital for investment and skills. This condition causes farmers to develop extensive agriculture. To see the level of welfare of farmers as a whole, it is also necessary to look at the other side, namely the development of the amount of their expenditure, both for skill needs and production.

Thus, many people in Huristak District, especially Tanjung Baringin Village, still need to be prosperous or meet their daily and other needs. There is a need for the government's role in stabilizing the price of palm oil sold to agents/brokers, providing good training in managing palm oil production, and also the role

of local communities in accepting all activities and even regulations that have been implemented to increase palm oil production.

Prosperity or well-being can have four meanings (Big et al.). In general terms, prosperity refers to a good condition, a human condition where people are prosperous, healthy, and peaceful. In economics, prosperity is associated with material benefits. Prosperity has a particular official or technical meaning (see welfare economics), as in social welfare function. Social welfare refers to the services that meet community needs in social policy. This is a term used to refer to the idea of a welfare state.

Pareto's theory 1895 states that the welfare of farmers is Pareto's superior. Increasing one's welfare will not reduce the welfare of other people. According to Pareto's theory, no more government policies can be implemented when society's welfare conditions have reached optimal welfare conditions.

Nurkse's 1953 theory stated that high poverty causes low social welfare. Based on nuclear theory, low levels of welfare are caused by market imperfections, lack of capital, and underdevelopment of human resources, causing low productivity.

Low productivity will result in low income. Low productivity results in low income received, and low-income results in society's welfare decreasing because the capital needed to meet life's needs is not optimal, so a community empowerment program is needed so that there is no more backwardness in human resources so that society will be more productive. The village government can improve community empowerment programs with the nurse theory, and existing human resources will be more productive. They can fulfill their daily needs optimally so that the cycle of poverty will decrease and community welfare can increase.

Community welfare includes all forms of social intervention that principally and directly improve the good conditions of individuals and society. Welfare includes all direct actions and processes that include the prevention of social problems, the development of human resources, and the improvement of quality of life.

## 2. Method

This research uses the Confirmatory Factor Analysis (CFA) and Multiple Regression methods; this research lasts for 5 months, from September 2023 to January 2024, starting from preparation to preparing the research; the data used uses primary data taken using questionnaires; the research location is Tanjung Baringin Village, Padang Lawas District, North Sumatra.

## 3. Result and Discussion

The results of data analysis use the Confirmatory Factor Analysis (CFA) method by analyzing groupings and then interpreting them to obtain an accurate picture of the problem under

study. Next, factor analysis is carried out, which aims to find a way to summarize the information contained in the original (initial) variables into a new set of dimensions or variables (factors). The first thing to do is test Barlett's test of Sphericity and Kaiser-Meyer-Olkin (KMO), which can be seen in the following table:

**Result**

**KMO and Bartlett's Test**

Table 1 KMO and Barlett's Test

| Tabel 1. KMO and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .509 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 48.596 |
| | df | 36 |
| | Sig. | .000 |

Based on the image above, the data in this research is usually distributed. That is, it can be seen from the pp plot image that the points are between the diagonal lines, so it can be concluded that the data distribution is normally distributed.

The results obtained from Barlett's test of Sphericity were 48,596 with a significance of 0.000; this means there is a correlation between variables (significant < 0.050). The Kaiser-Meyer-Olkin (KMO) test results obtained a value of 0.509, where this figure is already above 0.5. Thus, the variables in this research can be processed further by analyzing the factors of experience, education, skills, income, palm oil prices, production, labor, and productivity relevant to improving community welfare in Huristak District, Padang Lawas Regency. Significant results can be seen from the Rotated table.

The following Component Matrix:

Table 2. Rotated Component Matrix

| Tabel 2. Rotated Component Matrix[a] | | | | |
|---|---|---|---|---|
| | Component | | | |
| | 1 | 2 | 3 | 4 |
| Pengalaman | .257 | .748 | -.142 | .094 |
| Pendidikan | .464 | -.660 | -.026 | .061 |
| Keterampilan | .069 | -.254 | .175 | .684 |
| Pendapatan | -.147 | .000 | .689 | .188 |
| Harga Sawit | .754 | .121 | .043 | -.226 |
| Produksi | .633 | -.027 | -.020 | .258 |
| Tenaga Kerja | -.081 | .155 | -.721 | .070 |
| Produktivitas | .271 | .373 | .449 | -.198 |
| Kesejahteraan Masyarakat | .028 | -.272 | .111 | -.684 |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

Based on the results of the component matrix values, it is known that of the eight factors, the ones that are suitable for influencing the welfare of the community in Huristak District are 4 factors which come from:

• The most significant component 1 is the price of 0.754, which is worthy of influencing people's welfare. So, it can be concluded that prices significantly influence the people's welfare in the Huristak District. It can be seen that field conditions show that prices are a major or minor support for the income earned by the community in Huristak District and are a benchmark for improving community welfare. Thus, the price of palm oil has a good impact on the level of welfare

of palm oil farmers because the higher the price, the higher the welfare, in line with the results of research conducted by Selli (2020), which shows that prices have a positive and significant influence on the welfare of people in the Mangrove forest area. The research results conducted by Firman (2020) show that prices have a positive and significant effect on the welfare of the people of the Kintaman subdistrict, Bangli Regency.

• The most significant component 2 is experience at 0.748, worthy of influencing the welfare of society. So, it can be concluded that experience significantly influences the community's welfare in Huristak District. From what is shown in the field, the experience that farmers have can provide convenience when harvesting oil palms. In addition, with excellent and correct experience, Rast said that the people in Huristak District use fertilizer properly and only pick ripe palm fruit. In line with research by Yani (2020), work experience is knowledge or skills that a person knows and has mastered due to actions or work that has been carried out for a certain period. So, it was concluded that he had significant experience with community welfare.

• The third most significant component is income of 0.689, which is worthy of influencing community welfare. So, it can be concluded that income significantly affects the community's welfare in Huristak District. Conditions in the field where people in Huristak District replace themselves from the sale of palm oil to meet their daily needs, pay for school and buy fertilizer for the treatment of oil palm, cover debts used before the harvest is done, pay for fertilizer that has been used and put aside the rest to save for the future. So that the income received by the community in Huristak District can meet the needs that have been used, this research is in line with research by Fadri (2021) where the results of the research are that income is one of the factors in improving the welfare of the people of Kencong village, Jember Regency. Moreover, Mudatsir's (2021) research results show that income influences the welfare of coconut farming communities.

• The fourth most significant component is skills at 0.684, worthy of influencing community welfare. Thus, it can be concluded that skills significantly influence the community's welfare in the Huristak District. Appropriate in the field where all oil palm farmers have exceptional skills in harvesting oil palm, fertilizing, cleaning, and caring for oil palm land to provide good results and minimize risks to farmers, considering that palm fronds and fruit have very sharp and numerous thorns so they can provide a considerable risk to oil palm farmers when harvesting. This aligns with research from Abidin (2021) that skills also positively and significantly affect welfare in the small glass bead craft industry in Plumbon Village, Gudo District, Jombang Regency.

The Component Matrix resulting from the rotation process (Rotated Component Matrix) shows a more precise and more realistic distribution of variables. Determining the variable

input to a particular factor is based on the magnitude of the correlation between the variable and the factor, namely a significant correlation.

A new dimension of multiple linear regression is formed, and hypothesis testing and simultaneous tests on factors relevant to community welfare in Huristak District can be carried out. The results of the influence of the dependent variable on the independent variable can be seen from the following t-test (Partial Hypothesis Test) table:

Table 3. T-Test

| Tabel 3. Uji –t (Uji Hipotesis Parsial) Coefficients[a] | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
| | B | Std. Error | Beta | | | Tolerance | VIF |
| (Constant) | 18.015 | 2.481 | | 7.262 | .000 | | |
| Harga Sawit | .046 | .097 | .042 | 3.479 | .003 | .954 | 1.048 |
| Pengalaman | .055 | .100 | .075 | 2.001 | .000 | .945 | 1.058 |
| Pendapatan | .097 | .133 | .201 | 2.238 | .002 | .892 | 1.121 |
| Keterampilan | .054 | .101 | .224 | 2.512 | .001 | .909 | 1.100 |
| a. Dependent Variable: Kesejahteraan Masyarakat | | | | | | | |

Based on the table above, it can be seen that:
• The t-calculated value of palm oil prices is 3.479 > 1.652. The sig value is 0.003 < 0.05, so Ha is accepted, and H0 is rejected, meaning that palm oil prices are significant to the community's welfare in the Huristak District.
• The t-calculated experience value is 2.001 > 1.652, then the sig value is 0.000 < 0.05, so Ha is accepted, and H0 is rejected, meaning significant experience with the community's welfare in Huristak District.
• The t-calculated income value is 2.238 > 1.652, then the sig value is 0.002 < 0.05, so Ha is accepted, and H0 is rejected, meaning that income is significant to the community's welfare in Huristak District.
• The t-calculated skill value is 2.512 > 1.652. The sig value is 0.001 < 0.05, so Ha is accepted, and H0 is rejected, meaning that skills are significant to the community's welfare in Huristak District.

The F test (simultaneous test) is carried out to see the effect of the independent variable on the dependent variable simultaneously. The method is to look at the significance level (=0.05). If the significance value is smaller than 0.05, H0 is rejected, and Ha is accepted.

| Tabel 4. Uji – F (Uji Hipotesis Simultan) ANOVA[a] | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 120.013 | 4 | 15.003 | 12.459 | .004[b] |
| | Residual | 262.524 | 129 | 2.035 | | |
| | Total | 282.537 | 133 | | | |
| a. Dependent Variable: Kesejahteraan Masyarakat | | | | | | |
| b. Predictors: (Constant), Keterampilan, Harga Sawit, Pengalaman, Pendapatan | | | | | | |

Based on the table above, it can be seen that the results of the ANOVA test with F (Fisher) analysis show that the calculated F value is 12.459 > F table 2.42, so Ha is accepted and H0 is rejected, and this means that palm oil prices, experience, income and skills are jointly significant to welfare. Community in Huristak District.

## 4. Conclusion

From the results of research on factors that improve community welfare in Huristak District, several conclusions can be expressed as follows:

• The CFA test on the KMO and Bartlett's Test tables shows that the data is valid and can be analyzed further with factor analysis. The Bartlet test value states that the correlation matrix formed is an identity matrix, or in other words, the factor model used is good, and in the Rotated Matrix table, it is known that of the eight factors, four factors are worthy of influencing community welfare which have a significant influence on community welfare in the District. Huristak, namely price, experience, income, and skills.
• The results of multiple linear regression show that if the price of palm oil increases, community welfare will increase; if experience increases, community welfare will increase; if income increases, community welfare will increase; and if skills increase, community welfare will increase. The results of simultaneous hypothesis testing show that palm oil prices, experience, income, and skills jointly positively and significantly affect community welfare in Huristak District.

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