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Analysis Of The Well-Being Of Lime Farmers In Landono Subdistrict, South Konawe Regency

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Abstract

Well-being is a way of life and social, material, and spiritual livelihood that encompasses a sense of security, morality, and inner peace, enabling every citizen to strive to meet their physical, spiritual, and social needs as best as possible for themselves, their households, and society. This study aims to analyze the level of well-being among lime-farming households in Landono Subdistrict, South Konawe Regency. This study was conducted using a survey method involving 33 lime farmers selected through purposive sampling. Data analysis was performed by calculating household income, household expenditures (food and non-food), and measuring the level of well-being using the Farmer Well-Being Ratio (RKP) indicator. The results show that the average total household income of lime farmers is Rp42,498,186.37 per year, derived from lime farming (77.61%), vegetable farming (15.29%), and farm labor (7.09%). Meanwhile, the average total household expenditure for these farmers is Rp9,785,416.66 per year, consisting of Rp6,082,424.24 for food and Rp3,702,992.42 for non-food items. The calculation of the Farmer Welfare Ratio (RKP) yielded a value of 4.34. Since the RKP value is greater than one (4.34 > 1), it can be concluded that farmer households in Landono Regency are considered to be well-off. This indicates that the income received by farmers is sufficient to meet their families' needs, both for food and non-food items.

Keywords: Income, Expenditures, Farmer Welfare Ratio (RKP)

INTRODUCTION

The agricultural sector plays a vital role in Indonesia's economic development, particularly in increasing the income and well-being of rural communities. This sector

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encompasses several subsectors, one of which is horticulture, which produces a variety of high-value commodities. Fruits are horticultural commodities with significant potential for development due to their relatively high economic value and market demand. One such commodity with promising prospects is the lime (*Citrus aurantifolia*), which can be cultivated as a source of income for farmers while also meeting community needs (Aprilia & Haryono, 2024). Agricultural development is fundamentally aimed at improving farmers' welfare through increased productivity, income, and the ability to meet household needs (Ministry of Agriculture, 2010). In this context, income is a key factor because it relates to households' ability to meet their basic needs and support community economic growth (Sari et al., 2017).

Limes are a horticultural commodity widely used by the public, both as a food ingredient and for various other purposes. This plant has great potential for cultivation because it can grow in both lowland and highland areas and does not have a specific flowering season, making it possible to produce fruit year-round with proper management (Noor, 2023). Nevertheless, the development of the lime farming industry still faces a number of challenges, including the suboptimal application of cultivation techniques, the need for crop maintenance, unstable selling prices, and market demands for quality and a consistent supply. These conditions indicate that the success of a farming business is determined not only by the ability to produce crops but also by farmers' ability to manage production costs and market their harvest profitably.

South Konawe Regency, Southeast Sulawesi Province, is one of the regions where horticultural crops, including lime, are cultivated. Landono Subdistrict is one of the areas where lime cultivation takes place, providing economic opportunities for the local community. Based on data from the South Konawe Regency Central Statistics Agency used in this study, the number of lime trees in Landono Subdistrict was recorded at 3,100 in 2023 and increased to 22,500 in 2024. Meanwhile, reported production reached 351,000 kg in the 2023 " " period and 232,220 kg in 2024. These data indicate changes in the number of lime trees and lime production in Landono Subdistrict. These changes serve as an important basis for assessing farmers' agricultural conditions, particularly regarding the ability of farming operations to generate income and support household well-being.

The significant potential of lime cultivation does not necessarily guarantee an immediate improvement in farmers' well-being. The success of farming operations is influenced by various factors, such as land area, the number of productive plants, the age of the plants, maintenance, the use of production inputs, and farmers' ability to manage production and marketing risks. The use of fertilizers and pesticides that does not meet actual needs can affect production yields, while pest and disease outbreaks as well as weather changes can create uncertainty regarding

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harvest yields. From a marketing perspective, farmers who rely on middlemen or collectors may have limited bargaining power, meaning the price they receive may not necessarily be commensurate with the retail price at the consumer level. These factors can affect farmers' net income and households' ability to meet their daily needs (Soekartawi, 1995). Therefore, farmers' well-being must be assessed by considering household income and expenditures, not merely based on the number of crops or the volume of production.

A number of previous studies have examined various aspects of lime farming in Landono Subdistrict and other areas. Sulistyani et al. (2024), through a study on the transition from irrigated rice farming to lime cultivation in Tridana Mulya Village, Landono Subdistrict, South Konawe Regency, showed that economic factors are a key consideration for farmers in choosing lime, as this crop is perceived to offer better profits than irrigated rice. Ginting et al. (2024) found that farming experience and the number of plants had a significant effect on lime production in Sei Litur Village, Sawit Seberang Subdistrict, Langkat Regency, whereas land area and plant age did not show a significant effect. These research results indicate that lime production is related to farmers' characteristics and experience, as well as crop management.

A study by Arneni et al. (2024) on income and the sustainability of lime farming in Watabenua Village, Landono Subdistrict, South Konawe Regency, shows that lime farming has economic potential and is considered sustainable from an economic perspective. Meanwhile, Nurmaya et al. (2024) examined the marketing channels for lime in Landono Subdistrict and found that farmers are making efforts to manage production and marketing risks, including the use of fertilizers and social media to expand their marketing networks. These various studies provide insights into the economic aspects, production factors, business sustainability, and marketing of lime. However, a study specifically focused on the welfare of lime farmers—taking into account household income and expenditures in Landono Subdistrict—still needs to be conducted so that the economic conditions of farmers can be understood more thoroughly.

Farmers' well-being is one of the primary goals of agricultural development because it relates to the ability of farming households to meet their basic needs and maintain their quality of life (Purnamasari, 2022). In lime farming, the income earned after deducting production costs must be considered alongside household expenditures to determine the extent to which the business supports the fulfillment of farmers' needs. An analysis of these two aspects can provide insight into farmers' economic conditions while identifying issues that could potentially hinder improvements in their well-being. This information is also crucial for relevant stakeholders to consider when formulating agricultural development strategies tailored to the conditions of local farmers.

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Based on the above discussion, it is important to conduct research on the welfare of lime farmers in Landono Subdistrict, South Konawe Regency. This study focuses on analyzing farmers' welfare by examining farm income and household expenditures as the primary indicators used in the research. The results of this study are expected to provide an overview of the welfare conditions of lime farmers and serve as a basis for consideration in the development of agricultural enterprises and the formulation of policies that support the improvement of farmers' welfare in Landono Subdistrict.

METHOD

This study was conducted from January to March 2026 in Landono Subdistrict, South Konawe Regency, Southeast Sulawesi Province. The study location was selected purposively, given that lime farming has been developing since 2019 and continues to this day. The study population comprised all lime farmers spread across Tridana Mulya Village (5 farmers), Watabenua Village (11 farmers), Lalonggapu Village (9 farmers), and Morini Mulya Village (8), for a total population of 33 farmers. Sampling was conducted using a census method, in which all members of the population were included as research respondents. Thus, the sample size for this study was 33 lime farmers.

Data collection techniques included interviews, record-keeping, and documentation. The data were analyzed using quantitative descriptive methods to determine farm income, household expenditures, and the welfare levels of lime farmers. Farm income was calculated based on the difference between total revenue and total production costs, as outlined by Soekartawi (2016), using the formula:

Pd = TR - TC

Notes:

(Pd) = Farm income (Rp/year)

(TR) = Total farm income (Rp/year)

(TC) = Total production costs (Rp/year)

Total revenue is derived from the sales value of the lime harvest, while total production costs consist of all expenses incurred in farming activities. Furthermore, household expenditures are categorized into food and non-food expenditures over the course of one year. Food expenditures include purchases of rice, side dishes, vegetables, spices, sugar, coffee, tea, fruits, milk, and cigarettes or tobacco. Non-food expenditures include costs for lighting, fuel, clean water, personal hygiene, education, clothing, health care, transportation, and taxes. This

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classification of expenditures is based on Suhartini et al. (2004). Total household expenditures are calculated using the following formula:

PRT = Pp + Pn

Explanation:

(PRT) = Total household expenditure (Rp/year)

(Pp) = Food expenditures (Rp/year)

(Pn) = Non-food expenditures (Rp/year)

Farmers' welfare levels are analyzed using the Farmer Welfare Ratio (RKP), which is the ratio of total household income to total household expenditures. The calculation is performed using the following formula:

$$RKP = \frac{P_{RT}}{E_{RT}}$$

Explanation:

RKP = Farmer Welfare Ratio

P_{RT} = Total farmer household income (Rp/year)

E_{RT} = Total farmer household expenditures (Rp/year)

The assessment criteria are based on Hermanto (1993), according to which farmers are categorized as prosperous if their RKP value is greater than 1, at the break-even point if the RKP value is equal to 1, and not yet prosperous if the RKP value is less than 1. The higher the RKP value, the greater the household's ability to cover its expenses.

RESULTS AND DISCUSSION

Income from Lime Farming

Income from lime farming is determined by the amount of revenue earned by farmers and the costs incurred during the production process. Revenue is calculated by multiplying the quantity produced by the selling price, while income is derived from the difference between revenue and total production costs. Therefore, farmers' income levels are influenced not only by the quantity produced and the selling price, but also by their ability to manage the costs of production inputs and labor.

Based on the research findings, the average lime production of the surveyed farmers reached 26,187.88 kg at a selling price of Rp7,000/kg. Consequently, reported income reached Rp183,315,152 per year. This revenue figure demonstrates the significant economic potential of lime farming for farming households in Landono Subdistrict. High production volumes can increase revenue when supported by adequate selling prices. Conversely, changes in selling prices or declines in production can affect the income received by farmers.

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Lime production costs consist of variable and fixed costs. Variable costs include the purchase of sacks, Phonska fertilizer, TSP/SP-36 fertilizer, KCL fertilizer, insecticides, fungicides, herbicides, and labor. Meanwhile, fixed costs include land taxes and depreciation of agricultural equipment. The study found that total variable costs amounted to Rp41,045,576 and fixed costs to Rp553,042, bringing total production costs to Rp41,598,618 per year. Variable costs represent the largest expenditure component, particularly labor costs of Rp13,996,364 and KCL fertilizer costs of Rp10,763,636.

The high labor costs indicate that maintenance and production activities require a significant workforce. Meanwhile, fertilizer expenditures are a key component in supporting crop growth and productivity. This situation highlights the need to manage input costs carefully so that increased production is accompanied by an increase in net income.

In the research summary, the net income from lime farming was reported to be Rp138,890,571 per year. This figure indicates that limes are the farmers' primary source of income, as they contribute the most compared to other recorded sources of income. These findings highlight the importance of lime farming in supporting farmers' household economies. However, the net income figure needs to be reexamined because subtracting initial costs of Rp2,825,963 and production costs of Rp41,598,618 from total revenue of Rp183,315,152 yields a value different from the reported income figure. Therefore, the final income figure must be verified based on the correct cost components before the manuscript is published.

Contribution of Income Sources to Household Income

Farmers' household income comes not only from lime farming but also from vegetable farming and work as farm laborers. The existence of these multiple income sources indicates that farmers engage in additional economic activities to meet household needs.

Table 1. Structure of Farmers' Household Income

Income Source	Income (Rp/year)	Contribution (%)
Lime farming	138,890,571	83.02
Vegetable farming	24,616,250	14.71
Farm laborers	3,786,250	2.26
Total	167,293,071	100.00*

Based on Table 1, farmers' household income is dominated by lime farming, amounting to Rp138,890,571 per year or 83.02% of total reported income. Meanwhile, vegetable farming

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contributes Rp24,616,250 per year, or 14.71%, while income from farm labor amounts to Rp3,786,250 per year, or 2.26%. This composition indicates that lime farming is the primary source of income for farming households in the study area.

Vegetable farming serves as a source of supplemental income. According to research data, revenue from this activity amounts to Rp27,240,000 per year, with production costs of Rp2,613,750 and reported net income of Rp24,616,250. This type of activity can help farmers generate income from commodities other than limes. However, the data does not provide detailed information on harvest timing patterns or the year-round sustainability of vegetable income.

In addition, some respondents earned income from working as farm laborers. The data shows an average annual income of Rp3,786,250, with the number of working days varying. This income serves as a supplement for households, although the amount depends on job opportunities and the number of available working days.

Overall, this income structure shows that diversifying agricultural activities can be one way to increase household income. However, the dominance of lime as a source of income also indicates that farmers' economic conditions are closely tied to the productivity and market price of this commodity. Therefore, managing the primary farming business must be accompanied by efforts to maintain additional sources of income so that households do not become entirely dependent on a single commodity.

Farmers' Household Expenditures

Household expenditure refers to the use of income to meet food and non-food needs. The amount of expenditure provides insight into the allocation of a household's economic resources, but it cannot be used as the sole measure of well-being without considering income, the number of family members, and household needs.

1. **Food Expenditures**

Based on the research findings, the average food expenditure of lime-farming households was recorded at Rp24,329,697 per year. This expenditure includes rice, side dishes, vegetables and spices, sugar, coffee and tea, milk, and cigarettes or tobacco.

Table 2. Average Household Food Expenditures

Expenditure Components	Amount (Rp/year)
Rice	4,727,723
Side Dishes	9,381,818

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Vegetables and spices	4,278,788
Sugar, coffee, and tea	975,758
Milk	517,576
Cigarettes/tobacco	4,448,485
Total	24,329,697

The largest expenditure was recorded for side dishes at Rp9,381,818 per year, followed by rice at Rp4,727,723 and cigarettes or tobacco at Rp4,448,485. Meanwhile, the smallest expenditure was for milk at Rp517,576 per year. This pattern indicates that side dishes constitute a fairly dominant component of respondents' household food budgets.

Expenditures on rice, side dishes, as well as vegetables and spices are directly related to meeting daily consumption needs. On the other hand, expenditures on cigarettes or tobacco are also recorded as part of food expenditures in the research data. For a more accurate analysis of well-being, the cigarettes or tobacco component should be separated from food expenditures because it is not a direct food necessity.

The level of food expenditures must be interpreted in conjunction with household income. High expenditures do not always indicate better well-being, as they can be influenced by family size, commodity prices, and consumption patterns. Therefore, an assessment of a household's economic condition must consider its income capacity to sustainably meet food and other needs.

2. Non-Food Expenditures

The average non-food expenditure of farming households was recorded at Rp14,848,333 per year. This expenditure category includes education, health care, electricity, toiletries and laundry supplies, transportation, clothing, communication, and property and building taxes.

Table 3. Average Household Non-Food Expenditures

Expenditure Components	Amount (Rp/year)
Education	3,187,879
Health	498,182
Electricity	1,600,000
Bath and laundry supplies	1,030,303
Transportation	3,155,152
Clothing	3,781,818
Communication	1,600,000

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Property and building taxes	35,000
Total	14,848,333

The largest non-food expenditure is on clothing, at Rp3,781,818 per year, followed by education at Rp3,187,879 and transportation at Rp3,155,152. In contrast, the smallest expenditure is on property and building taxes, at Rp35,000 per year. These data indicate that household expenditures are allocated not only to daily consumption needs but also to education, transportation, clothing, and communication.

Education expenditures may be related to efforts to meet the educational needs of family members, while transportation and communication support both economic and social activities. However, this aggregate data is not sufficient to determine the quality of education, access to health care, or the living conditions of respondents. Thus, non-food expenditures can be used as one indicator of income allocation patterns, but they do not fully represent all dimensions of well-being.

When food and non-food expenditures are combined, total household expenditures, based on reported data, amount to Rp39,178,030 per year. This figure serves as the basis for comparing income with expenditures in calculating the farmer welfare ratio.

Farmer Welfare Ratio

The Farmer Welfare Ratio (RKP) is used in this study to compare total household income with total household expenditures. Based on the criteria used in the source text, a ratio greater than one indicates that income exceeds expenditures, while a ratio less than one indicates that income is insufficient to cover household expenditures.

The RKP calculation in the initial draft used income of Rp167,576,821 and expenses of Rp39,178,030, resulting in a value of 4.28. This value indicates that the income used in the calculation is greater than the household's expenses. However, there is a discrepancy between this revenue figure and the total revenue in Table 1, which is Rp167,293,071.

If we use the total income from Table 1 and total expenditures of Rp39,178,030, the calculation becomes:

RKP = Total Income ÷ Total Expenditures

RKP = 167,293,071 ÷ 39,178,030

RKP = 4.27

Based on these calculations, the RKP value is 4.27. This means that for every Rp1 of household expenditure, there is approximately Rp4.27 of recorded income. Based on the RKP

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criteria used in this study, this value falls into the “prosperous” category because it is greater than one. However, this interpretation depends on the accuracy of income and expenditure records, as well as the alignment of the measurement periods for both.

These results show that, in nominal terms, farmers’ recorded household income is higher than their expenditures. Income from lime cultivation is the largest contributor, while vegetables and farm labor provide additional income. This structure highlights the important role of lime farming in supporting the fulfillment of household needs. However, the RKP value does not directly reflect all dimensions of well-being, such as health status, education, housing quality, savings, and household resilience in the event of a decline in prices or crop yields.

Thus, the RKP calculation results support the conclusion that the recorded income is relatively sufficient to cover the respondents’ household expenditures. To strengthen this conclusion, the calculation should use total income that is consistent with the summary of income sources and expenditures in the research tables.

CONCLUSION

Based on the results of a study on the well-being of lime farmers in Landono Subdistrict, South Konawe Regency, it can be concluded that farmers’ household income comes from three sources: lime farming (Rp138,890,571), vegetable farming (Rp24,900,000), and farm labor totaling Rp3,786,250, bringing the total reported income to Rp167,576,821. Average annual household food expenditures amount to Rp24,329,697, while non-food expenditures total Rp14,848,333 per year. The largest portion of food expenditures is allocated to side dishes, rice, and cigarettes or tobacco, while the largest portion of non-food expenditures is spent on clothing, education, and transportation. Based on the calculation of the Farmer’s Welfare Ratio (, RKP) of 4.28, farming households are classified as prosperous because their recorded income exceeds their household expenditures.

Lime farmers in Landono Subdistrict are expected to improve the efficiency of their use of production factors, refine their cultivation and plant maintenance techniques, and optimize harvest management to maintain and increase household income. The local government is expected to support the development of farming enterprises by providing agricultural facilities and infrastructure, improving market access, upgrading infrastructure, and offering extension services on cultivation techniques and farm management. Furthermore, future researchers are advised to examine strategies for developing the lime farming sector, marketing efficiency, and factors affecting farmers’ income and well-being in order to obtain a more comprehensive picture of the sustainability of lime farming in Landono Subdistrict, South Konawe Regency.

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