

## Analysis of Household Income of Rice Farmers and Horticulture in Waihatu Village, West Seram

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### ABSTRACT

Maluku is a province where the majority of the population currently regards rice as their primary staple food. The purpose of this study was to analyze the level of income of rice and horticulture farmer households, feasibility and contribution. Analyze the feasibility of rice and horticulture farming, Analyze the level of contribution of farmer household income from rice, horticulture and livestock commodities. This study was conducted from April to August 2024 with a sample of 50 farmers (7% of the population of 736 farmers). The findings of the study indicated that rice farmers generated an income of Rp. 256,355,000, with expenditures amounting to Rp. 118,257,000. Consequently, the net income for rice farmers was Rp. 138,098,000, resulting in an average income of Rp. 2,761,960.

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## **INTRODUCTION**

Indonesia was once self-sufficient in rice, due to, among other things, government support that prioritized agricultural development accompanied by supportive macroeconomic policies, breakthroughs in new technology (Green Revolution) for wet rice cultivation and agricultural intensification policies (BIMAS) that regulated the application of technology centrally. However, rice self-sufficiency could only be maintained until 1993. Intensification through the BIMAS program finally ended, due to increasing environmental damage accompanied by pest resistance to pesticides caused by increased consumption of pesticides and chemical fertilizers (Research and Development Agency, 2006).

As one of the pillars of the country's economy, the agricultural sector is expected to increase income, especially from rural residents who are still below the poverty line. For this reason, various investments and policies have been made by the government to encourage growth in the agricultural sector. Investments in the agricultural sector tend to be quite costly, and the return on investment is typically low, coupled with a lengthy investment period, making it less appealing to the private sector. Therefore, the construction of irrigation, agricultural extension and various forms of investment in the form of subsidies and others generally must be carried out by the government.

Household income in Waihatu transmigration village varies greatly. The variation is not only caused by regional potential factors, but also household characteristics. Broadly speaking, there are two sources of household income in Waihatu transmigration village, namely the agricultural and non-agricultural sectors. The structure and amount of income from the agricultural sector comes from farming (food crops, vegetables, fruits and plantations), livestock and fisheries, while from the non-agricultural sector comes from industrial, trade, service and employee businesses. So the author conducted this study entitled Analysis of Household Income of Rice Farmers and Horticulture in Waihatu Village, West Seram.

## **LITERATURE REVIEW**

Indonesia was once self-sufficient in rice, due to, among other things, government support that prioritized agricultural development accompanied by supportive macroeconomic policies, breakthroughs in new technology (Green Revolution) for wet rice cultivation and agricultural intensification policies (BIMAS) that regulated the application of technology centrally. Broadly speaking, there are two sources of household income in Waihatu transmigration village, namely the agricultural and non-agricultural sectors. The structure and amount of income from the agricultural sector comes from farming (food crops, vegetables, fruits and plantations), livestock and fisheries, while from the non-agricultural sector comes from industrial, trade, service and employee businesses.

## METHODOLOGY

This research was conducted in Waihatu Village, West Kairatu District. The research was conducted for 5 months starting from April 2024 - August 2024. The type of data used in this study is quantitative data, namely a method for investigating objects that can be measured by the numbers obtained. The data sources collected in this study are primary data and secondary data, primary data is data obtained directly from the field. Secondary data is data collected from second sources, namely data obtained from related agencies, research reports, scientific papers, documentation or other information related to this research.

## RESEARCH RESULT AND DISCUSSION

### *Rice Field Income Analysis*

#### *a. Paddy Field Cost Analysis*

Fixed costs are costs whose size is not affected by the size of production, while variable costs are types of costs whose size is related to the size of production. In the production of paddy fields, fixed costs include land tax, and depreciation costs of equipment, while variable costs include the cost of purchasing seeds, fertilizers, pesticides, and labor wages. Overall, fixed costs and variable costs incurred in the production process are the total production costs, for more details, how much income, revenue and what costs are incurred by paddy field farmers in Waihatu Village.

**Tabel 1. Paddy field cost analysis**

	Paddy Production Costs (Rp)
Total	118,257,000
Average	2,365,140

*Sumber : Data Diolah, 2024*

Table 1 shows that the total production cost incurred by rice farmers is Rp 118,257,000. The production cost of each respondent is different, depending on the amount of production they will produce. The amount of production cost incurred by each respondent is due to the amount of production the respondent will produce and the working hours they do for farming.

#### *b. Analysis of Revenue and Income*

**Tabel 2. Analysis of Rice Field Income and Revenue**

	Paddy Field Receipt (Rp)	Paddy Field Income (Rp)
Total	256,355,000	138,098,000
Average	5,1127,100	2,761,960

*Sumber : Data Diolah, 2024*

Table 2 shows that the total average income of rice farmers in Waihatu Village is IDR 5,1127,100 and the total average income of rice farmers in Waihatu Village is IDR 2,761,960. Based on the background of the study where the researcher wants to know the amount of income of farmers with a fairly large land area, whether rice farmers in Waihatu Village are still profitable or not. This is because the area of land in the area is quite large but the income is still lacking. However, this is indeed profitable even though it is not too high because the area is far from major road access so that it requires a lot of production costs, especially labor costs and herbicide costs and the productivity of the land is still low. So that the average income of farmers per hectare is IDR 2,761,960 / season.

### **Horticulture Income Analysis**

#### **a. Horticulture Cost Analysis**

**Tabel 3. Horticulture Cost Analysis**

	Horticultural Production Costs (Rp)
Total	71,995,500
Average	2,249,859

Table 3 shows that the total production cost incurred by horticultural farmers is Rp 71,995,500. The production cost of each respondent is different, depending on the amount of production they will produce. The amount of production cost incurred by each respondent is due to the amount of production the respondent will produce and the working hours they do for farming.

#### **b. Analysis of Horticultural Revenue and Income**

**Tabel 4. Analysis of Horticultural Revenue and Income**

	Horticultural acceptance (Rp)	Horticultural income (Rp)
Total	382,660,000	310,664,500
Average	11,958,125	9,708,265

*Sumber : Data Diolah, 2024*

Table 4 shows that the average total income of horticultural farmers in Waihatu Village is Rp 11,958,125 and the average total income of horticultural farmers in Waihatu Village is Rp 9,708,265. The difference in the amount of income for each farmer is caused by differences in planting distance and the resulting content planted by each farmer. This shows that the income of each respondent varies depending on the amount of horticultural land owned by each farmer. Meanwhile, income in horticulture is obtained from the income minus the total costs incurred. If the value obtained is positive, then it can be said that the business is making a profit, while if the value obtained is negative, then it can be said that what is being done is experiencing a loss. This states that farmer income is the difference between income and all costs incurred during the course of their business activities.

**Feasibility Analysis of Paddy Farming and Horticulture in Waihatu Village**

Feasibility study serves to determine whether the business is feasible to run or not by determining the profit received is greater than the expenditure. This is important to avoid losses for a business that is pioneered or developed.

**Revenue Cost ratio (R/C)**

Revenue Cost ratio (R/C) is one of the indicators that can be used to determine the feasibility of a business. The R/C ratio analysis is calculated by comparing revenue with total costs. According to Mulyo et al. (2017), the higher the R/C value, the greater the income in rupiah generated from each rupiah spent and the better the performance of the farming business. In the rice farming business in the research area, the average R/C value was obtained as follows:

**Tabel 5. Analisis Revenue Cost ratio (R/C)**

Description	Unit	Paddy Field	Horticulture
Total Revenue	Rp	256,355,000	382,660,000
Total cost	Rp	118,257,000	71,995,500
<b>R/C</b>		<b>2.2</b>	<b>5,3</b>

*Sumber : Data Diolah, 2024*

From the calculation of the R/C ratio, it can be seen that the rice farming business in Waihatu Village as a whole is economically feasible so that the value is more than 1, so the rice farming business is very feasible to be continued or attempted in accordance with applicable provisions. Likewise, the calculation of the horticulture R/C ratio shows that horticulture in Waihatu Village as a whole is economically feasible so that the value is more than 1, so the rice farming business is very feasible to be continued or attempted in accordance with applicable provisions. However, the value of the rice farming R/C ratio is lower than horticulture. This is indicated by the large value of the rice farming R/C ratio, which is 2.2 and the horticulture R/C ratio is 5.3.

**Benefit Cost Ratio (B/C)**

Soekartawi (2011) indicated that analyzing the profit-to-cost ratio (B/C Ratio) serves as a method to assess the relationship between the profits and the costs incurred. The B/C Ratio analysis is employed to assess the viability of rice farming and horticulture in Waihatu Village, enabling the research to ascertain whether the business is viable for development.

**Tabel 6. Analisis Benefit Cost Ratio (b/c)**

Description	Unit	Paddy Field	Horticulture
Total Revenue	Rp	138,098,000	310,664,500
Total COst	Rp	118,257,000	71,995,500
<b>B/C</b>		<b>1.2</b>	<b>4.3</b>

*Sumber : Data Diolah, 2024*

Based on table 6, it is known that the feasibility of rice farming based on the calculation of B/C Ratio in Waihatu Village is IDR 138,098,000, which is received. While the total cost incurred during one season is IDR 118,257,000, which is spent, resulting in the feasibility of the entire rice farming business in Waihatu Village of 1.2 for one season. And for the feasibility of horticultural farming based on the calculation of B/C Ratio in Waihatu Village is IDR 310,664,500, which is received. While the total cost incurred during one season is IDR 71,995,500, which is spent, resulting in an average feasibility of the entire rice farming business in Waihatu Village of 4.3 for one season.

The calculation of B/C Ratio is the result of dividing the calculation of income and the calculation of total production costs. Thus, based on the number of B/C Ratio results obtained of 1.2, it can be concluded that the B/C Ratio of paddy farming in Waihatu Village is feasible to be developed. While the number of B/C Ratio results obtained for horticultural plants is 4.3, it can be concluded that the B/C Ratio of horticultural farming in Waihatu Village is very feasible to be developed.

*Analysis of Contribution Level of Each Commodity in Waihatu Village*

**Tabel 7. Analysis of Contribution Level of Each Commodity in Waihatu Village**

<b>Commodity</b>	<b>Income (Rp)</b>	<b>Contribution (%)</b>
Paddy Field	138,098,000	29
Horticulture	310,664,500	66
Cattle	23,391,666	5
<b>Total</b>	<b>472,154,166</b>	<b>100</b>

*Sumber : Data Diolah, 2024*

The contribution analysis in this study is to determine how much influence the income level of a farm business has on the total income of farming families in Waihatu. The amount of contribution can be calculated by comparing the profit of a farm business with the total income of the household then multiplied by 100%. Based on table 19 research results in Waihatu Village according to field data that the contribution of horticultural farming is greater or the percentage of income is greater with an average income value of 66%, compared to rice field income with a percentage of income of 29% and non-agriculture (livestock) with a presentation of only 5%. So it can be seen in terms of the contribution of horticultural farming in Waihatu Village is higher seen from the large percentage of income contribution from rice field farming, so the level of farmer welfare tends to come from income from horticultural farming.

## CONCLUSIONS AND RECOMMENDATIONS

Income for rice farmers and horticulture obtained rice income of Rp.256,355,000 with expenditure of Rp.118,257,000, then the income for rice farmers is Rp.138,098,000. While for horticulture itself, the income obtained is Rp.382,660,000 with expenditure of Rp.71,995,500, then the income for horticulture farmers is Rp.310,664,500. The overall feasibility of paddy farming business using Reveal Cost Ratio (R/C) the R/C Ratio value is greater than 1 ( $2.2 > 1$ ) and the Benefit Cost Ratio (B/C) is also greater than 1 ( $1.2 > 1$ ). Based on this, paddy farming business is feasible to run. Likewise with horticulture as a whole using Reveal Cost Ratio (R/C) the R/C Ratio value is greater than 1 ( $5.3 > 1$ ) then horticulture farming business is feasible to run and Benefit Cost Ratio (B/C) is also greater than 1 ( $4.3 > 1$ ) then horticulture farming business is very feasible to run.

## ADVANCED RESEARCH

Still doing further research to find out more about Analysis of Household Income of Rice Farmers and Horticulture in Waihatu Village, West Seram.

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