Agribusiness Journal

# INCOME ANALYSIS OF RUBBER FARMERS OF KUB MEMBERS IN KOTO TIBUN VILLAGE, THE KAMPAR DISTRICT, THE KAMPAR REGENCY

**Shorea Khaswarina**[1], Suardi Tarumun[2], Ilham Mudzakir[3]
[123]Agribusiness Department, Faculty of Agriculture, Riau University, Pekanbaru and, Indonesia
Email :*ilhammudzakir1911@gmail.com*
***Corresponding Author***

*DOI : 10.15408/aj.v16i1.28202*

***Abstract***

*Research on rubber members of KUB was carried out in Koto Tibun Village, The Kampar District, The Kampar Regency with the aim of analyzing net income and analyzing the efficiency level of rubber farming. This research was conducted using a survey method, the sampling was carried out by purposive sampling of 20 rubber farmers who were the members of KUB using quantitative descriptive analysis of the income and the level of efficiency. The results showed that the average income of rubber farmers who were the members of KUB was greater, amount to IDR. 6,688,657.05 / ha / year and the RCR value of rubber farmers who were the members of KUB was 1.33, meaning that every expense incurred by farmers was IDR. 1.00 will get a profit of IDR. 0.33. This means that the rubber farmer members of KUB are profitable and have been said to efficient because the RCR value obtained is greater than one (RCR> 1).*

***Keywords:*** *Rubber; Income; Efficiency*

## INTRODUCTION

Indonesia is one of the developing countries whose majority of the population is looking for agriculture. The agricultural sector is divided into several subsectors, one of which is the plantation crop subsector. Plantation crops have great potential to be developed and are widely needed by the domestic market and international markets. The plantation crop subsector generally develops in rural areas, marginal areas, and sometimes remote areas.

The existence of the plantation crop subsector has contributed significantly to the growth of the area where the plantation is located. The mainstay plantation commodity for the national income and foreign exchange of the Indonesian state. One of them is rubber commodities, Indonesian rubber is the 2nd rubber producer after Thailand and is the leading export commodity of plantations that are widely traded in the world, job creation, regional development, encouraging agribusiness and agro-industry, supporting environmental conservation and as the second foreign exchange earner after oil palm plantations. (Directorate General of Plantations, Ministry of Agriculture, 2019).

Although rubber is often hit by the issue of turmoil and plummeting rubber prices that make farmers scream, of course, various efforts continue to be made by the government to improve the welfare of rubber farmers. The rubber opportunity is very promising where the raw material for synthetic rubber is increasingly limited, the need for natural rubber is increasing (2.5% of the year) and Indonesian natural rubber has the technical specifications needed by the tire industry and various types of industries derived from other rubber materials. (Directorate General of Plantations, Ministry of Agriculture, 2019).

Rubber production in Indonesia is increasing every year. Based on data from the Indonesian Central Statistics Agency, rubber production in Indonesia reached 3.1 million tons

in 2017, but in 2018 rubber production decreased from the same year to 3 million tons. The development of rubber plants in Riau province, especially in the The Kampar Regency, is in line with the development of rubber plants in Indonesia. In 2018 the area of rubber plantations in the The Kampar Regency was 93,375 ha with a total production of 64,857 tons (Riau Province in 2019 Figures), where The Kampar Regency is the second largest and most shadowed regency producing rubber in Riau Province. In addition, rubber is the main livelihood of the people in The Kampar Regency. The frequent decline in rubber prices has resulted in a decrease in the income received by farmers.

One of the efforts made by the The Kampar Regency Plantation Office to increase rubber prices is by forming a Joint Uasaha Group (KUB) for rubber farmers, from data owned by the The Kampar Regency Plantation Office in 2017 there are 11 KUBs already under the guidance of the The Kampar Regency Plantation Office. One of them is KUB Karet Lestari in Koto Tibun Village, rubber farmers who are members of KUB will be facilitated for marketing crops and the difference in selling prices in factories and traders is quite large, this is certainly very beneficial for rubber farmers who are members of KUB because the price received by farmers who are members of KUB is higher than farmers who are not members of KUB. Therefore, in carrying out coaching, the emphasis continues to be made on farmers to always maintain the quality and quality of their rubber.

Seeing the condition of farmers who are members of the KUB who get higher rubber prices, rubber farmers who are members of the KUB will generate greater income. Therefore, it is necessary to research to prove and see the income of rubber farmers who are members of the KUB. This study aims to analyze net income and analyze the level of efficiency of farming for rubber farmers of KUB members in Koto Tibun Village, The Kampar District, The Kampar Regency.

## RESEARCH METHODS

### Reserch Location and Time

The research was conducted in Koto Tibun Village, The Kampar District, The Kampar Regency. The selection of the research site was deliberate (*purposive*) because in Koto Tibun Village, The Kampar District, The Kampar Regency, there were rubber farmers who joined the Joint Business Group (KUB). The study started from March 2020 to January 2021.

### Data Types and Sources

The types of data used are primary data and secondary data. Primary data were obtained from direct interviews with rubber farmers of KUB members through a questionnaire that had been prepared. Meanwhile, secondary data is obtained from relevant agencies such as village offices, agricultural offices, and central statistics agencies.

### Data Analysis

The study used the survey method, namely direct observation in the field through interviews with respondents Farmer sampling in this study was carried out with *purposive sampling* techniques with the criteria of farmers who have 1 ha of land and farmers whose rubber plant age is 15-30 years, the number of samples in the study was 20 people. The data analysis used is quantitative analysis. The quantitative analysis aims to analyze the income of KUB member rubber farmers based on gross income and farm costs and the R/C ratio used to determine the efficiency of farming of KUB member rubber farmers. The cost of farming organic paddy rice can be calculated using the formula (Soekartawi, 2016):

TC = TFC + TVC

where:

TC = Total cost (Rp/ha/year)
TFC = Total Fixed costs (Rp/ha/year)
TVC = Total Variable costs (Rp/ha/year)

To find out the gross income of rubber farmers can be calculated using the formula (Suratiyah, 2015):

$TR = P \times Q$

where:
TR = Gross income (Rp/ha/year)
P = Production price (Rp/Kg)
Q =Total production (Rp/ha/year)

After obtaining production costs and gross income, the net income of KUB member rubber farming can be calculated using the formula (Soekartawi, 2016):

$\Pi = TR - TC$

Information:
$\pi$ = Net income of rubber farming (Rp/ha/year)
TR = Gross income (Rp/ha/year)
TC = Total production cost (Rp/ha/year)

The formula used to calculate the level of efficiency (R/C Ratio) of organic rice paddy farming can be calculated using the formula (Soekartawi, 2016):

R/C Ratio = TR/TC

Information:
R/C Ratio = Farm efficiency
TR = Gross income (Rp/ha/year)
TC =Total production cost (Rp/ha/year)

Criterion: R/C Ratio >1, Rubber farming is efficient, farming is said to be efficient, profitable, and feasible to develop, where every expenditure of Rp.1 generates revenues greater than Rp 1,- . R/C Ratio < 1, Rubber farming is not efficient, farming is said to be inefficient and unprofitable and unfit for development, where every Rp.1 cost incurred will result in receipts smaller than Rp 1,-. R/C Ratio = 1, Farming is said to be at breakeven (not experiencing profit or loss).

## RESULTS AND DISCUSSION

### Overview of Research Areas

Koto Tibun Village is one of the villages in The Kampar District which has an area of 659.95 hectares with the boundaries of the area to the North bordering the The Kampar River, the South bordering Padang Mutung Village, the West bordering Pulau Tinggi Village, and the East bordering Padang Mutung Village. The distance between Koto Tibun and the District as the center of government ± 7 KM, with the capital of ± Regency, is 17 KM. The Koto Tibun Village area is crossed by the State Road along the ± 1500 M. Topographical State of Koto Tibun Village is in a lowland area with an altitude from sea level is 40 meters. The climate in Koto Tibun Village is to have a dry season climate and a rainy season climate (Koto Tibun Village Monograph, 2018).

### Overview of the Joint Business Group (KUB) of the Research Area

The Karet Lestari Joint Business Group (KUB) is an institution that is grown from, by and for farmers to strengthen cooperation in fighting for the interests of farmers in the form of farmer groups and farmer groups. Famines have an important and strategic role in the marketing of rubber for economic growth in rural areas. The area of land owned by KUB member farmers is an average of 1 ha with a yield of 50-100 kg per week, this crop is in the form of frozen

rubber which starts from liquid latex which is quoted and printed in a rubber freezer tub, after hardening the rubber is only collected at the weighing place, then taken to the factory. This KUB helps farmers in marketing the products directly to the factory so that the price received by farmers is higher than farmers marketing rubber to collecting traders or middlemen. The difference in the price of rubber if you sell to KUB by selling to collecting merchants is quite high, reaching Rp. 1,000 to Rp. 2,000 per kg.

**Identity of Research Respondents**

The age of farmers, in general, is at the productive age, which ranges from 44-54 years, namely 13 people (65.00%) with the dominant level of education being elementary school graduates as many as 7 people (35.00%), with a relatively low level of education that can hinder and influence the mindset of farmers to receive innovations and information received. Farmer farming experience is 26-30 years of experience with as many as 8 people (40.00%) who have a long enough experience in doing rubber farming. As for the number of dependents of farmer families in general, it is 1-3 people (65.00%). The land ownership status of farmers in this study is owned by themselves.

**Farm Business Costs**

Rubber farming costs are costs incurred by farmers in carrying out rubber farming activities. The cost of rubber farming consists of variable costs and fixed costs which are the average costs for one year.

*Variable Costs*

Variable costs are costing whose amounts change and are influenced by production (Soekartawi, 2016). The variable costs in this study consisted of the costs of fertilizers, pesticides, and vinegar. The average variable cost of rubber farming in Koto Tibun Village, The Kampar District, The Kampar Regency can be seen in Table 1.

Table 1. Average variable costs in Koto Tibun Village, The Kampar District, The Kampar Regency

| No | Keterangan | Pemakaian (ha/tahun) | Biaya (Rp/ha/tahun) |
|---|---|---|---|
| 1 | Pupuk (Kg) | 117,50 | 657.500,00 |
| 2 | Pestisida (L) | 1,55 | 96.500,00 |
| 3 | Cuka (botol) | 47,80 | 239.000,00 |
| | Jumlah | 166,85 | 993.000,00 |

Source: Processed Data 2020

Table 1. Shows the average usage and variable costs of rubber farming of KUB members in Koto Tibun Village. Fertilizer used by rubber farmers and as much as Rp. 96,500.00/ha/year**.** Vinegar is used to thicken liquid latex with to avoid mixing water during rain so that the latex will not rot. The average vinegar extraction in this study was 47.80 bottles/ ha/year with a large cost incurred, which was Rp. 239,000.00 / ha / year.

The total variable costs in this study were Rp. 993,000.00 / ha / year. The largest use of costs is Fertilizer with a total cost of Rp. 657,500.00 / ha / year. The variable costs incurred by KUB member rubber farmers are greater when compared to the variable costs incurred by non-KUB rubber farmers, this is because KUB member rubber farmers prioritize the quality and quality of production so that fertilization and maintenance are more regular.

*Fixed Costs*

Fixed costs are costs that are a fixed amount and are not affected by production (Soekartawi, 2016). Fixed costs in this study consist of labor costs, depreciation of tools, investment costs, land taxes, and mandatory deposits of KUB. The average fixed cost in this study was Rp. 18,981,566.90 /ha/year. The average fixed cost of rubber farming in Koto Tibun Village, The Kampar District,and The Kampar Regency can be seen in Table 2.

Table 2. The average fixed cost of rubber farming in Koto Tibun Village, The Kampar District, The Kampar Regency

| No | Information | Cost (Rp/ha/year) |
|---|---|---|
| 1 | Labor (TKDK) | 13.467.000,00 |
| 2 | Tool depreciation | 310.141,90 |
| 3 | Investment costs | 5.049.425,00 |
| 4 | Land tax | 35.000,00 |
| 5 | Mandatory deposits KUB | 120.000,00 |
| | Sum | 18.981.566,90 |

Description: Processed Data 2020

Table 2. shows that the average fixed cost incurred by rubber farmers of KUB members in Koto Tibun Village dakam doing farming is Rp.18,981,566.90/ha/year. The average cost is the TKDK cost, which is Rp. 13,467,00.00/ha/year, while the smallest average cost is a land tax which is Rp.35,000.00/ha/year. The fixed costs incurred by KUB rubber farmers are greater when compared to the costs incurred by non-KUB rubber farmer`s, this is because KUB rubber farmers members spend more labor costs, especially on wiretapping activities.

Total production costs are the combination of variable costs with fixed costs. The total production costs incurred by farmers in carrying out the rubber farming business of KUB members amounted to Rp.19,974,566.90. The largest use of costs is fixed costs of 95% of the total production costs, which are Rp. 18,981,566.90 /ha/year, while variable costs it is 5% of the total production costs, which are Rp. 993,000.00/ha/year. Member rubber farming business KUB uses a lot of TKDK, especially in eavesdropping activities, so it requires a large amount of labor because the amount of product produced is higher, therefore the labor costs incurred by rubber farmers of KUB members are high than the cost of other indicators.

**Production and Gross Revenue**

The amount of rubber crop production is influenced by certain factors, including climate, land area, fertilizer, processing, and so on. Farmers sell their crops in the form of ojol with an average price of Rp. 7,929.59 / Kg. The amount of gross income obtained by farmers in farming is influenced by large number of productions produced and the appropriate selling price so that the revenue to be obtained by farmers is even greater (Setiawati, 2015). The average rubber products of KUB members in Koto Tibun Village is 3,362.50 Kg/ha/year with the gross income received by farmers being Rp. 26. 663,223.96/ha/year.

**Net Income and Farm Efficiency**

Net income is the income received by the farmer from his produce after deducting all costs during the production process in one growing season. Net income represents the entire income earned by farmers in one year minus the cost of production during the production process (Gustiyana, 2004).

Efficiency is an effort to use the smallest agricultural inputs to get the greatest income (Soekartawi, 2011). The level of farm efficiency can be analyzed using *the Return Cost of Ratio*

(RCR). Efficiency can be obtained from the comparison of farmers' farm revenues with the total costs incurred by farmers during the production process. The calculation of the RCR is important so that it can be used as an assessment of farmers' decisions in developing farming businesses. The average net income and RCR Value of rubber farming of KUB members in Koto Tibun Village can be seen in Table 3.

Table 3 Average net income and RCR value of KUB member rubber farming in Koto Tibun Village

| No | Information | Cost (Rp/ha/year) |
|---|---|---|
| 1 | Variable Costs | |
| | Fertilizer | 657.500,00 |
| | Pesticides | 96.500,00 |
| | Vinegar | 239.000,00 |
| | Number of Variable Costs | 993.000,00 |
| 2 | Fixed Costs | |
| | TKDK | 13.467.000,00 |
| | Tool depreciation | 310.141,90 |
| | Investment costs | 5.049.425,00 |
| | Land tax | 35.000,00 |
| | Mandatory Deposits KUB | 120.000,00 |
| | Amount of Fixed Costs | 18.981.566,90 |
| 3 | Total Cost | 19.974.566,90 |
| 4 | Gross Revenue | 26.663.223,96 |
| 5 | Net Income | 6.688.657,05 |
| 6 | RCR | 1,33 |

Description: Processed Data 2020

Table 3. shows the average net income received by KUB member rubber farmers in Koto Tibun Village. The average net income received by farmers is Rp. 6,688,657.05. Meanwhile, the RCR value of KUB members' rubber farming businesses in Koto Tibun Village has a value of > 1 meaning that the rubber farming business of KUB members is worthy of effort because of the gross income earned by farmers is greater than the costs incurred in the production process. The value of the RCR in member rubber farming is 1.33 meaning that each cost incurred by farmers is Idr. 1.00 will generate a gross income of Rp. 1.33 and net income of Rp. 0.33. According to Wulandari (2018), his research shows that the net income received by rubber farmers belonging to KUB is Rp. 21,142,903.24 and the RCR value is 2.20, where the RCR value obtained is greater than one (RCR>1), meaning that the farm business carried out is profitable and feasible to develop.

## CONCLUSION AND SUGGESTION

The net income received by member rubber farmers is Rp.6,688,675.05 with a farm efficiency value of 1.33 meaning that every cost incurred by farmers of Rp. 1.00 will result in a gross income of Rp. 1.33 and a net income of Rp. 0.33. So that it can be concluded that the rubber farming business activities of KUB members have obtained profits and are worthy of development.

## BIBLIOGRAPHY

Central Statistics Agency of Riau Province. 2019. *The Kampar District In 2019 Figures*. Central Bureau of Statistics The Kampar, The Kampar.

Directorate General of Plantations. 2019. *Statistika Perkebunan Indonesia Commodity Rubber 2018*. Jakarta.

Gustiyana, H. 2004. *Analysis of Farm Revenue for Agricultural Products* :Salemba Empat. Jakarta.

Monograph of Koto Tibun Village. 2018. *Koto Tibun Village Profile*. Koto Tibun Village Office, The Kampar Kanupaten The Kampar District. Riau

Setiawati Ni Kadek P. et al. 2015. Analysis of Organic Rice Farming Income (The Case of the Gana Sari Farmer Group, Badung Regency). *E-Journal of Agribusiness and Agrotourism.Vol 4. No. 5 December 2015*

Soekartawi. 2016. *Analysis of Farming.* UI Press. Jakarta.

Soekartawi. 2011. *Analysis of Farming*. UI Press. Jakarta.

Suratiyah, Ken. 2015. *The Science of Farming*. Self-Help Spreader. Jakarta.

Wulandari, S. 2018. *Comparative Analysis of Income of Rubber Farmers of KUB Members and NON-Members of KUB in Pulai Rambai Village, East The Kampar District, The Kampar Regency*. Thesis of Riau University. Pekanbaru.