



## Study of the Effectiveness of Microcredit Program for Rice Paddy Business Development in Palangga Sub-district South Konawe Regency

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### Abstract

*This study aims to determine the effectiveness of Microcredit and the income differences of agribusiness actors before and after receiving the microcredit program in Palangga District, South Konawe Regency. Effectiveness in this study uses three aspects: the amount of credit, credit utilization, and credit burden. The population in this study is all agribusiness actors who are customers and borrow microcredit in Kiaea Village and Persiapan Wonua Morini Village, Palangga District, totaling 40 people. Sampling was done using non-probability sampling methods through saturation sampling (census), where all populations were sampled. Data analysis used simple statistical analysis to measure the effectiveness of microcredit and Paired Sample t-test for income difference analysis. The results showed that the overall effectiveness of microcredit distribution is very effective, as seen from each variable, namely: 1) the amount of credit is very effective, 2) credit utilization is very effective, and 3) credit burden is very effective. There is an income difference for agribusiness entrepreneurs before and after receiving microcredit.*

**Keywords:** Effectiveness, Microedit, Income, Agribusiness Actors.

### INTRODUCTION

Indonesia is an agriculture-based country known as the national granary and has great potential as a producer of food crops and commodities from various subsectors, including food crops, plantations, fisheries, livestock, and forestry. The development of leading commodities is expected to advance the agricultural sector and sustain the national economy (Sayifullah and Emmalian, 2018). The government continues to encourage sustainable food self-sufficiency



programs to improve food security through extension and opening new rice fields. Low rice productivity is often caused by biophysical, socioeconomic, and institutional factors of farmers at the village level. Therefore, a model of rice farming on new land involving farmer groups, researchers, agricultural extension workers, government agencies, the private sector, and banks is needed as an effort to increase the productivity and welfare of farmers (Hatta et al., 2023).

There are 17 districts or cities in Southeast Sulawesi that cultivate paddy rice with a total of 482.37 thousand tons with a harvest area of 116.1114 thousand hectares (BPS Southeast Sulawesi, 2023). One of the districts in Southeast Sulawesi Province that produces a lot of rice is South Konawe. The production of paddy rice in South Konawe Regency can be seen in Table 1.

**Table 1 Production of Rice Paddy Crops in South Konawe Regency in 2019-2023**

| No. | Year | Production (Ton) |
|-----|------|------------------|
| 1   | 2019 | 82.800           |
| 2   | 2020 | 79.746           |
| 3   | 2021 | 83.864           |
| 4   | 2022 | 88.805           |
| 5   | 2023 | 87.723           |

Source: BPS Konawe Selatan, 2023

Based on Table 1 that in 2019-2023 the production of paddy rice experienced a different decrease and increase each year, where in 2019 to 2020 it decreased from 82,800 tons down to 79,746 tons, then in 2021 and 2022 it increased, and in 2023 it experienced a slight decrease from the previous year. In 2019 rice production was 82,800 tons, in 2020 it was 79,746 tons, in 2021 it was 83,864 tons, in 2022 it was 88,805 tons and in 2023 it was 87,723.

South Konawe District cultivates a lot of paddy rice plants, one of which is in Kiaea Village and Wonua Morini preparation village. This is because the land/soil conditions that support it are also relatively easy to cultivate. However, according to Aditia *et al.* (2018), the production of paddy rice is strongly influenced by the level of ability of farmers to maintain their farming business because paddy rice farmers really need capital for the cost of maintaining the paddy rice. The development of paddy rice farming can be influenced by the culture of farmers which is manifested in a form of knowledge and local wisdom of the community (Hidrawati *et al.*, 2023).

Rice is the most frequently consumed staple food in the world, so timely and accurate estimates of rice planted area and yield are essential to provide valuable information for governments to formulate effective policies (Zhao and Ma, 2021). Farmers' willingness to



participate in agricultural environmental measures is influenced by perceptions, resources, available options, as well as behavioral factors and opportunities that are significant in decision-making compared to sociodemographic factors (Schulze et al., 2023). The important role of the agricultural sector makes it a priority in development, with tangible contributions such as the provision of food, feed, bioenergy, industrial raw materials, employment, sources of foreign exchange, and environmental conservation through environmentally friendly farming practices (Rivai and Anugrah, 2016).

According to Thantawi et al. (2023), agribusiness is any business related to agricultural production activities, starting from the exploitation of inputs, the production itself, to the management of agricultural products, and economically focuses on providing food by managing aspects of culture, post-harvest, processing, and marketing. Small business development in the agribusiness sector has a strategic role in driving economic growth and poverty alleviation, particularly in Southeast Sulawesi, where wet-rice farming contributes to job creation, increased farmer income, and agricultural productivity. However, the main challenge faced by small businesses is limited access to capital, making microcredit programs an important instrument in helping business owners obtain the required capital. Based on Law No. 14 of 1967, a financial institution is an entity that attracts and distributes funds from the public through various financial instruments, including lending and investment in financial markets. According to Carolina (2023), financial institutions, which are regulated by government regulations, are divided into bank and non-bank financial institutions such as insurance, pawnshops, and financing institutions. Effectiveness, as explained by Kusumawati (2023), measures the extent to which a program or organization achieves the set objectives, both in terms of quality, quantity, and time, and assesses success based on the results or targets achieved.

According to Tasirileleu and Susanto (2023), micro business loans are loans given to micro entrepreneurs to finance investment and working capital needs with the aim of helping them develop their businesses and increase their income. Microcredit includes loans from banks for investment and working capital with a maximum ceiling of IDR 50,000,000, intended for micro businesses run by the poor or near poor according to BPS criteria. Capital is an important factor in farming, but the absence of adequate capital can be an obstacle in increasing the production and quality of agricultural products (Saediman et al., 2019). According to Mamoto et al. (2021), sources of farm capital are divided into own capital, which comes from farmers, and loan capital from banks, financial institutions, or individuals. Farmers tend to prefer loans from individuals because the process is easier and does not require collateral, in contrast to banks that have more complex credit schemes and require collateral. In Kecamatan Palangga, the people's business



credit (KUR) and micro business credit (KUR Mikro) programs began in 2016. The development of microcredit in the area is quite rapid, as evidenced by the large number of people who utilize the credit program to develop their businesses, especially in agriculture such as paddy fields, fisheries, and livestock.

One of the problems often experienced by farmers in Palangga District, South Konawe Regency is the allocation of business credit funds. Some farmers apply for credit with the aim of increasing business capital, but the business credit funds are used for other purposes that have nothing to do with businesses such as farming. As a result, the quality and quantity of production from the farm did not increase. In the end, farmers who receive business credit cannot benefit from the business credit.

## METHOD

This research was conducted in Kiaea Village and Wonua Morini Preparatory Village, Palangga Sub-district, South Konawe District, Southeast Sulawesi Province in December 2023 - April 2024. The location of this research was chosen *purposively* with the consideration that in Kiaea Village and Wonua Morini Preparatory Village, Palangga Sub-district, there were many wet-rice farmers who received the microcredit program. Data collection was conducted for one month in February 2024.

The population in the study were all rice farmers who became customers and borrowed microcredit programs in Kiaea Village and Wonua Morini Preparatory Village, Palangga District to develop their businesses totaling 40 people. The population distribution in the two villages was in Kiaea Village as many as 25 people and in Wonua Morini Preparatory Village as many as 15 people. Sampling is done by *non-probability sampling* method, namely the method through saturated *sampling* (census), where all populations are sampled. Data analysis in this study has two research objectives.

1. To find out the first objective of how the effectiveness of the microcredit program on the development of paddy rice farming in Palangga District, South Konawe Regency was analyzed using simple statistical methods, namely (Adiyadnya *et al.*, 2020):

$$\text{Effectiveness} = \frac{\text{Realisasi}}{\text{Target}} \times 100$$

Description:

Realization      Number of "yes" answers on each effectiveness indicator (number of credits, credit usage and credit burden)

Target      The entire research sample (people)

2. To determine the second objective, namely the difference in income of paddy rice farming before and after receiving the microcredit program in Palangga District, South Konawe Regency, it was calculated using the t-test analysis. *Paired Sample t-Test* analysis is a procedure used to compare the average of two variables in one group. This means that this analysis is used to test two related samples or two paired samples. A paired sample can be interpreted as a sample with the same subject but experiencing 2 different treatments or measurements, namely measurements before and after the microcredit program. According to Sugiyono (2017), the t-test is a statistical technique used to compare the average of two groups of data. This technique is generally used in research to test whether there is a significant difference between the two groups of data.

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2} - 2r \left( \frac{S_1}{\sqrt{n_1}} \right) \left( \frac{S_2}{\sqrt{n_2}} \right)}}$$

Description:

t        Calculated t value

X<sub>1</sub>       = Average income before receiving microcredit

X<sub>2</sub>       = Average income after receiving microcredit

S<sub>1</sub>       = Standard deviation before receiving microcredit

S<sub>2</sub>       = Standard deviation after receiving microcredit

n<sub>1</sub>       = Number of samples before treatment

1        = Number of samples after treatment

r        Correlation

To interpret the Paired sample t-test must first be determined:

1. Value  $\alpha = 0.05$  (5%)

2. df (degree of freedom) = N-k and for paired sample t-test df = N-1 (39).

Hypothesis:

H<sub>0</sub> = X X<sub>1=2</sub> or Thitung > Ttabel = H<sub>0</sub> is rejected or H<sub>1</sub> is accepted.

H<sub>1</sub> = X X<sub>1≠2</sub> or Thitung < Ttabel = H<sub>0</sub> is accepted or H<sub>1</sub> is rejected.

If the value of tcount > ttable then the income of paddy rice farming before and after the microcredit program there is a real difference. Conversely, if the value of tcount < ttable then the income of paddy rice farming before and after receiving microcredit program there is no real difference.

## RESULTS AND DISCUSSION

### Income of Rice Paddy Farmers Before and After Receiving Microcredit

#### 1. Farm Income

Farming costs are all expenses used in farming. Farming costs can be divided into two, namely fixed costs and variable costs (Ibrahim *et al.*, 2021). Fixed costs and variable costs in paddy rice farming in Palangga District, South Konawe Regency before receiving Microcredit and after receiving Microcredit can be seen in Table 2.

**Table 2 Average Cost, Production, and Income of Rice Paddy Farming in Palangga Subdistrict, South Konawe District**

| No | Type of Cost             | Average (IDR/Ha/MT) |            | % Increase |
|----|--------------------------|---------------------|------------|------------|
|    |                          | Before              | After      |            |
| 1. | Fixed Cost               |                     |            |            |
|    | • Equipment Depreciation | 704.022             | 704.022    | 00         |
| 2. | Variable Cost            |                     |            |            |
|    | • Seeds                  | 738.000             | 751.875    | 1,88       |
|    | • Fertilizer             | 952.700             | 1.001.612  | 5,13       |
|    | • Pesticides             | 207.702             | 250.425    | 20,56      |
|    | • Labor Wages            | 4.798.750           | 4.887.500  | 1,84       |
| 3. | Total Cost               | 7.401.174           | 7.595.434  | 2,62       |
| 4. | Production               | 3.910               | 4.027      | 2,99       |
| 5. | Price                    | 5.500               | 6.500      | 1,81       |
| 6. | Total Revenue            | 21.505.000          | 26.178.750 | 21,73      |
| 7. | Revenue                  | 20.103.825          | 22.610.815 | 12,47      |

Based on Table 2, the average total cost of wet-rice farming before receiving microcredit was Rp 7,401,174/Ha/planting season, while after receiving microcredit, the total cost increased to Rp 7,595,434/Ha/planting season. This increase was due to the increased use of variable costs in farming after obtaining microcredit. Meanwhile, farm income, obtained from production (kg) multiplied by the selling price (IDR), showed that the average agribusiness farm income after receiving microcredit was higher than before receiving microcredit. This was mainly influenced by higher unit prices and production quantities after receiving microcredit. Farm income, calculated as total revenue minus total costs, was also higher after receiving microcredit than before

receiving microcredit. This difference is due to a larger increase in farm income after microcredit compared to income before microcredit.

The increase in farm income was influenced by the high yield of farm production after receiving microcredit. This result is in line with the research of Iski *et al.* (2016) which shows that credit is able to increase farm production so as to increase income.

## 2. Income Differences

The real level in the analysis of income differences (*Paired Sample T-Test*) is 5% or 0.05 and the degree of freedom or df is 39. By making a combination of df = 39 and a real level of 0.05, the critical value of the t test obtained is 2.022. To see the difference in income can be seen in the following table;

**Table 3 Results of T-test Analysis of Farm Income in Palangga Sub-district, South Konawe Regency**

| Average income<br>(IDR/Ha/MT) | Before     | After      | thitung | ttable | Sig.  |
|-------------------------------|------------|------------|---------|--------|-------|
|                               | 20.103.825 | 22.610.815 | 5,030   | 2,022  | 0,000 |

Table 3 shows that there is a difference in farm income before and after receiving microcredit, where income after receiving microcredit is greater than before receiving microcredit. This is evidenced by the results of the t-test which shows a t-test value of 5.030, greater than the t-table of 2.022, which means  $H_0$  is rejected and  $H_1$  is accepted. In addition, the significance value of  $t < 0.05$ , which indicates a significant difference in farm income before and after receiving microcredit. The difference in income is due to the additional capital received by agribusiness entrepreneurs after obtaining microcredit, which is used to purchase production inputs (saprodi) to increase the quantity and quality of business. As a result, production yields increased and farmers' income was also higher than before receiving microcredit.

These results are in line with research conducted by Herlinawati and Arumanix (2017) on the analysis of MSME income before and after receiving Tunas Usaha Rakyat credit which shows the results of the study that there is a significant difference in micro business income before and after getting Tunas Usaha Rakyat credit. These results are reinforced by research conducted by Aditia *et al.*, (2018) on the analysis of pepper farming income before and after receiving KUR in Ulusena Village, Moramo District, South Konawe Regency, which shows the results that there are differences in the income of pepper farmers before and after receiving KUR in Ulusena Village, Moramo District, South Konawe Regency. Artha (2020) who examined the analysis of differences in MSME income before and after receiving credit from financial institutions also showed the



results of research that there were significant differences in MSME income before and after receiving credit from financial institutions.

## **The Relationship Between the Effectiveness of the Microcredit Program for Paddy Rice Farming Income**

The distribution of the microcredit program in Palangga Sub-district, South Konawe District is classified as very effective, indicated by the answers of each respondent regarding (amount of credit, use of credit, and credit burden). The impact is felt directly on the income of wet-rice farming. Effectiveness in credit distribution ensures that farmers get easier and faster access to the capital they need to increase their agricultural production. This capital can be used to purchase quality seeds, fertilizers, pesticides, and modern farming tools.

The effectiveness of microcredit distribution in Palangga Sub-district is very effective, which means that the program has succeeded in achieving certain objectives, such as the distribution of funds on time, on target, and in the right amount. Factors such as an easy application process, good supervision, and support in business development will increase the effectiveness of the program. Since the effectiveness of microcredit distribution is very high, the income of wet-rice farmers will also increase significantly after the program is implemented. Where the income before the microcredit program was Rp 20,103,825 and after the microcredit program was Rp 22,610,815. This means that the success of a program is seen from the increase in farmers' income after the program is implemented.

## **CONCLUSION**

Based on the results of the study, it is concluded that the distribution of microcredit for the development of paddy rice farming in Palangga District, South Konawe Regency is very effective based on the amount of credit, credit usage, and credit burden. There is a difference in the income of paddy rice farmers before and after receiving microcredit. The income of wet-rice farmers after receiving microcredit is greater (Rp.22,610,815) when compared to before receiving credit (Rp.20,103,825).

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