Agribusiness Journal
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Risk Analysis of Rice Farming in Polenga Village, Watubangga District, Kolaka Regency

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ARTICLE INFO

ISSN: 2548-2211
Vol. 4, No. 1, June2021
URL: https://doi.org/10.31327/aj.v4i1.1449

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Abstract

This study aims to determine the amount of production risk, cost risk and income risk of rice farmers in Polenga Village, Watubangga District, Kolaka Regency. The basic method used in this research is quantitative descriptive. Determination of the research sample using simple random sampling method, with a total sample of 48 rice farmers. The results of this study are the risks faced by farmers in Polenga Village, Kecamtan Watubangga, which is the production risk, costs risk and income risk. Based on the value of variation coefficients (CV) obtained, if CV> 0.5 then the production risk , costs and farm income borne by farmers is greater, while the value of CV ≤ 0.5, the farmer will always profit or break even. At the production risk , the coefficient of variation (CV) was obtained at 0.1 ≤ 0.5 indicate that the farm production risk that burdenedby farmers is low. Cost risk obtained by the value of the Coefficient of Variation (CV) of 0.2 ≤ 0.5 indicates that the farm cost risk that burdenedby farmers is low and the farm income risk is obtained a value of Variation Coefficient(CV) of 0.1 ≤ 0.5 indicates that burdenedby farmers is low too.

Keywords: Rice Farming, Production, Cost, Income, Channels, Variation Coefficients.

A. Introduction

The agricultural sector has an important role in national development. As an agricultural commodity, food is one of the most basic human needs, is considered strategic, and often includes emotional and even political things. The fulfillment of food in quantity and quality is very important as a foundation for the development of Indonesian people as a whole in the long term. The development of food crop agriculture is aimed at increasing the income of the farming community. This can be achieved by increasing production (Hanafie, 2010).

Rice is one of the important agricultural commodities, this is because the function of the rice commodity is still the main food ingredient for Indonesian people. Based on data from the Central Statistics Agency (BPS) Southeast Sulawesi in 2019 figures, rice production in Southeast Sulawesi with a land area of 135,003 ha, amounting to 646,207 tonnes, while the region that has the highest production is in the first place, namely in Konawe Regency which has a land area of 49,858ha, with The production yield is 233,935 tons, with a production percentage of 36.20%. And followed by Konawe Selatan, which has a land area of 23,572ha, with a production yield of

108,359 tons, with a production percentage of 16.77%. Meanwhile, rice production in Kolakada Regency with a land area of 16,864 ha produces 88,694 tons, with a production percentage of 13.73. This shows that Kolaka Regency is the area with the 3rd largest rice production after Konawe and Konawe Selatan Districts.

Business activities in the agricultural sector often face extreme situations, namely risk events and uncertain events. The risk of agricultural production is greater than the risk of non-agriculture, where agricultural cultivation activities are strongly influenced by nature such as climate, pests and diseases. In addition to the realm of risk, the use of farming costs that are too high can also affect income.

Lowland rice farming has an important position in the food system, but the use of chemical fertilizers is excessive in lowland rice farming, which causes low and unstable land productivity, even this can lead to high opportunities for production failure. This indicates that land with a higher level of productivity (favorable environment), has a relatively small production risk, and vice versa. Another thing is exacerbated by the underdevelopment of the application of recommended technology, so the business pattern is less intensive (Prihtanti, 2014).

Production problems related to the nature of farming which always depends on nature are supported by risk factors that cause high opportunities for production failure, thus accumulating the risk of low income received by farmers. The risks faced by lowland rice farmers can be in the form of yield risk or production risk, cost risk and income risk. Yield or production risks arise from, among others, pest attacks, weather or natural conditions, problematic water supplies, and variations in the inputs used. Natural conditions greatly affect yield variations, for example with very large or very small rainfall conditions, which can cause crop failure. Unpredictable weather conditions are often the cause of decreased production and productivity of rice plants produced by farmers.

Polenga Village, Watubangga Subdistrict, is one of the lowland rice producing areas in Kolaka Regency with a rice field area of 430 hectares with an average lowland rice productivity of 6 tons / ha. So that proper risk management is needed in padisawah farming activities, with risk management, the possibility of risk being faced will be smaller and can provide income in accordance with farmers' expectations. Risk management is a tool that can help farmers make decisions in dealing with risks.

B. Methodology

1. Location Determination

This research was conducted in Polenga Village, Watubangga District, Kolaka Regency, starting from May to July 2019. This area was chosen as a research site because it is one of the centers of lowland rice production. The population of this study were all farmers cultivating lowland rice within 242 households. Determination of the sample is done by taking 20% of the total population which is considered to be 48 households, this is in accordance with the opinion of Arikunto (2006) which states that all populations of less than 100 should be taken, then if the population is more than 100 households, 10-15% of the sample should be drawn. -25% or even more than 25%.

2. Data Analysis Method

The data collection method used in this study was a survey method consisting of primary and secondary data. Primary data is data obtained through direct interviews with respondents, while secondary data is data obtained from related agencies. Furthermore, to determine the risk of lowland rice farming in Polengga Village, Watubangga District, Kolaka Regency, it is determined by determining the coefficient of variance with the following formulation (Arifin, 2007):

$KV = \sigma/Xr$

Description :

KV : Coefficient of Variation (CV)

σ : Deviation Standart

Xr : Average of Production Quantity/Price /Income

The smaller Variation Coefficien indicates that the variability of the mean value in the distribution is low. This illustrates the risks faced in obtaining this production are low.

C. Findings and Discussion

1. Rice Farming Risk Conditions

Rice farming in Polenga Village, Watubangga District, Kolaka Regency, has various risks that become challenges for farmers. Starting from erratic weather, disturbance of plant pests (pests and weeds), input prices (fertilizers, seeds, and pesticides), as well as fluctuating / fluctuating / fluctuating selling prices. However, according to farmers, lowland rice farming is quite profitable as seen from the comparison between the costs incurred and the increase in rice production so that farmers are able to make decisions in dealing with risks in farming. Lowland rice farming risks consist of production risk, cost risk and income risk. This risk is analyzed by the coefficient of variance. The small coefficient of variation indicates that the variability of the average value of the distribution is low. This illustrates the risk faced is small. The risk analysis for lowland rice production in Polenga village can be seen in Table 1 as follows.

Table 1: Analysis of Production Risks, Costs and Income of Rice Farming in Polengga Village, Tannggetada District, Kolaka Regency

No	Description	Risk
	Production Risk	
1	Average of Production Quantity (kg)	4.851
2	Deviation Standart	437
3	Coefficient of Variation	0,1
4	CV (%)	10
	Cost Risk	
1	Average of Production Cost (Rp)	2.393.791
2	Deviation Standart	551833,59
3	Coefficient of Variation	0,2
4	CV(%)	20
	Income Risk	
1	Average of Production Income (Rp)	17.010.376
2	Deviation Standart	1352250,36
3	Coefficient of Variation	0,1
4	CV(%)	10

Source : Data Proceed (2019)

2. Production Risk

Based on Table 1 above, it shows that the average production of lowland rice farmers in Polenga Village is 4,851 Kg / MT. From this production calculation, it can be seen that the standard deviation of lowland rice is 437 Kg / MT. The coefficient of variation is obtained from calculations comparing the average production with a standard deviation so that the value is 0.1. According to (Hernanto 1993), if CV> 0.5 then the risk of farm production borne by farmers is greater, while the value of CV ≤ 0.5, the farmer will always profit or break even. A value of 0.1 ≤ 0.5 indicates that the risk of farming production low cost of farmers. The coefficient of variance means that the lowland rice production process has a 10% chance of failure.

3. Price Risk

Based on Table 1 above, it shows that the average cost of lowland rice farmers is 2,393,791Kg / MT. From the calculation of these costs, it can be seen that the standard deviation of lowland rice is 551833.5861 Kg / MT. The coefficient of variation is obtained from calculations comparing the average cost with a standard deviation in order to obtain a value of 0.2. According to (Hernanto 1993), if CV> 0.5 then the risk of farming costs borne by farmers is greater, while the value of CV ≤ 0.5, the farmer will always profit or break even. The value of 0.2 ≤ 0.5 indicates that the risk of farming costs which is borne by farmers low. The coefficient of variance means that lowland rice farming has a 20% chance of failure.

4. Income Risk

Based on Table 1 above, it shows that the average income of lowland rice farmers in Polengah Village is IDR 17,010,376, - / MT. From the income calculation, it can be seen that the

standard deviation of lowland rice is 135.2250,364, - / MT. The coefficient of variation is obtained from calculations that compare the average income with a standard deviation in order to obtain a value of 0.1. According to (Hernanto 1993), if CV> 0.5, the risk of farm income borne by farmers is greater, while the value of CV ≤ 0.5 means that the farmer will always profit or break even. which is borne by farmers low. The coefficient of variance means that lowland rice farming has a 10% chance of failure.

D. Conclusion

The risks faced by farmers in Polenga Village are production risk, cost risk and income risk. Based on the coefficients of variation (CV) values obtained, if CV> 0.5 then the risk of production, costs and farm income borne by farmers is greater, while the value of CV ≤ 0.5, the farmer will always profit or break even. For the production risk, the Coefficient of Variation (CV) value of 0.1 ≤ 0.5 indicates that the risk of farming production borne by farmers is low. cost risk obtained by the value of the Coefficient of Variation (CV) of 0.2 ≤ 0.5 indicates that the risk of farming costs borne by farmers is low. and the risk of income obtained by the value of the Coefficient of Variation (CV) of 0.1 ≤ 0.5 indicates that the risk of farming income borne by farmers is low.

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