World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(RESEARCH ARTICLE)

Check for updates

The level of risk of rice farming due to the flood disasters experienced by rice farmers on swamp Lebak lands in Pemulutan Subdistrict Ogan Ilir Regency

Muhammad Rizky Abdillah [1,*], Muhammad Yamin [1] and Yunita [2]

[1] *Agribusiness Master Study Program, Faculty of Agriculture, Sriwijaya University, Palembang Indonesia.*
[2] *Department of Social Economics, Faculty of Agriculture, Sriwijaya University, Palembang, Indonesia.*

World Journal of Advanced Research and Reviews, 2024, 23(01), 2833–2835

Publication history: Received on 16 June 2024; revised on 25 July 2024; accepted on 27 July 2024

Article DOI: https://doi.org/10.30574/wjarr.2024.23.1.2249

Abstract

This study aims to determine the level of risk of rice farming experienced by rice farmers in lowland swamp land (lebak) in Pemulutan District, Ogan Ilir Regency. The research location was in two villages, namely Tanjung Pasir village and Pemulutan Ulu village with a total of 130 respondents (65 samples from each village). The results of this research show that the level is 39.36% based on Z score calculation, which is categorized as low (indicator <40%).

Keywords: Flood Disasters; Lebak; Rice Farmers; Rice Farming; Risk Level

1. Introduction

Risk is an inseparable part of human life which is widely used in many meanings and is used in words by most people in social life (Radja, 2011). Risk is an event that cannot be avoided and results in loss to a business or business. Risk is also a consequence of what we do, the risks faced in every business behavior are certainly not the same, depending on the type of business carried out because it is related to the amount of return we receive from risk takers. Risk cannot be avoided, but must be faced with countermeasures that can reduce the possibility of a loss occurring.

Soedjana (2007) revealed that the problem of risk in the agricultural sector is not something new because it is often faced by farmers. The risks faced by farmers have negative impacts that cannot be predicted which result in harvest failure and cannot be controlled optimally, because it is a risk from an uncertain event that cause loss or loss.

Risk averse, risk neutral and risk taker are three criteria for farmer behavior in facing risk, this is in accordance with Debertin's statement in Assafa (2014). Each farmer has different behavior in dealing with the risks they face. Farmers who are risk averse (avoid risk) are farmers who are not prepared to face losses. Farmers will expect higher income if they face high risks. Risk taker behavior in farmers who dare to take chances even though the results obtained are low. Farmers' low income influences their desire to carry out their production activities. Risk neutral farmers show behavior that is not sensitive to whether the risks they face are true or small. In analyzing decision making related to risk, you can use the expected return model, namely that what a person wants to achieve is not value (return) but satisfaction (utility).

2. Material and Methods

The research was carried out in two villages, namely Tanjung Pasir village and Pemulutan Ulu village. The majority of this village is located on lowland swamp land (lebak) so it is suitable for use as rice farming. The number of respondents

* Corresponding author: Muhammad Rizky Abdillah

used in this study was 130 responses (65 samples from each village). Samples were drawn using a simple random sampling technique because the researchers determined a sample of 130 rice farmers from 688 populations.

The data processing method used is to calculate the Z Score. The calculation according to Kountor (2008) is as follows:

$$Z = \frac{Y - \bar{X}}{s}$$

Information:

Z = Farming Risk Level (%)

Y = Risk Threshold (Kg/ha/MT)

$\bar{X}$ = Average Value (Kg/ha/MT)

S = Standard Deviation (Kg/ha/MT)

Value Y (Risk Threshold) is the number of kg/ha/MT of production that is affected by flooding but farmers can tolerate production costs for the next planting season using the formula:

$$Y = \frac{BRTP}{GKP}$$

Information:

BRTP = Average Cost of Production (Rp/ha/MT)

GKP = Harvest Dry Grain (Rp/kg)

The risk level threshold criterion is 40% so that a level >40% will be classified as a high-risk level while <40% will be classified as a low risk level (Kountur, 2008 in Kuncorojati, 2021).

3. Results and Discussion

The risk level of rice farming due to flood disasters experienced by rice farmers in lowland swamp land (lebak) can be seen in Table 1 below.

Table 1 The Risk Level of Rice Farming Due to Flood Disasters

Components	Results
X (Average of Loss Production) (kg/ha/mt)	3873.15
Standard Deviation (kg/ha/mt)	3246.44
Y (Risk Threshold) (kg/ha/mt)	2998
N (Total Respondents)	130
Z (Deviation)	-0.27
Nilai pada Tabel Z	0.3936
Risk Level (%)	39.36

Source: Results of Primary Data (2024)

Before calculating the risk level of rice farming due to flood disasters, we first calculate Y (risk threshold) where Y is the number of kg/ha/mt of production affected by the flood. The risk threshold calculation can be seen from the average production cost divided by the dry grain harvested are presented in Table 2.

Table 2 The Risk Level of Rice Farming Due to Flood Disasters

Components	Results
BRTP (Rp/ha/MT)	17,680,490
GKP (Rp/kg)	5,897
Y (Risk Threshold) (kg/ha/MT)	2998

Source: Results of Primary Data (2024)

Based on Table 2 the calculation of the risk threshold for rice farming due to flood disasters is 2998 kg/ha/mt, which means 2998/kg/ha/mt of rice production is lost due to flood disasters but farmers can tolerate production costs for the next planting with an average production cost of IDR17,680,490/ha/mt and the average price of harvested dry grain is IDR5,897/kg.

The risk analysis carried out was to find the risk level of rice farming due to flood disasters using data on production losses from rice farmers at the research site. Based on Table 1 the results of the risk level analysis were found to be 39.36%, which means that the risk level for rice farming due to flood disasters is categorized as a relatively low risk level because the indicator is still <40%.

4. Conclusion

From the results of this research it can be concluded that the risk level of rice farming due to the flood disaster experienced by farmers in lowland swamp land (lebak) in Pemulutan District Ogan Ilir Regency is at 39.36%, according to Z Score Calculation which means that the risk level is categorized as a relatively low risk level because the indicators are still low. is at <40%.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

References

[1] Radja, G.E. 2011. Principle of Risk Management and Insurance Eleventh Edition. Pearson Education.

[2] Soedjana. 2007. Integrated Crop-Livestoc Farming System as a Farmer's Response to Risk Factors. Journal of Agricultural Research and Development. 26(2): 82-87.

[3] Assafa. 2014. Risk Analysis of Taro (Colocasia giganteum (L). Schott). Production in Situ Gede Subdistrict Bogor City. Agribusiness Thesis. Bogor Agricultural Institute.

[4] Kountur, R. 2008. Easy to Understand Company Risk Management. Jakarta.

[5] Kuncorojati, 2021. Level of Failure Risk Based on Land Typology of Participants of Rice Insurance Business in South Sumatera. Thesis. Palembang: Sriwijaya University.