FEASIBILITY ANALYSIS OF RICE FARMING BUSINESSES IN SWAMP LAND PANGANDARAN DISTRICT

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ABSTRACT

Swamp land with its unique characteristics is one of the sub-optimal lands with a low level of fertility. This research was conducted with the aim of analyzing the feasibility of lowland rice farming in the swamps of Pangandaran Regency. The type of research used was a survey at the Guna Bakti Mulya Farmer Group in Ciganjeng Village, Padaherang District, Pangandaran Regency. Respondents in this study were all members of the Guna Bakti Mulya Farmers' Group of 20 respondents who were taken by census. The research objectives were analyzed in a quantitative descriptive manner using cost, revenue, revenue and R/C analysis. The results showed that the average total cost incurred by farmers per hectare was IDR 8,439,509.-, the average income per hectare was IDR 10,279,425.-, and the average income per hectare was IDR 1,839,916.-. Thus, rice cultivation in swampland is feasible with an R/C value of 1.22, meaning that every IDR 1.- of costs incurred will receive revenue of IDR 1.22 thus obtaining an income of IDR 0.22, -.

Keywords: Flood, Income, Paddy farmer

INTRODUCTION

Indonesia is an agricultural country where most of the population lives and works in the agricultural sector and its contribution to GDP is quite large (Putri et al., 2022). Rice is a staple food for most of Indonesia's population whose demand continues to grow along with the increasing population (Anisya & Waluyati, 2019).

West Java as one of the national rice production centers contributes more than 17 percent to national rice production. However, (BPS, 2022) over the past 10 years there has been a trend of decreasing rice production, one of which is the reduction in harvest area as a result of the conversion of agricultural land into housing, and so on.

Pangandaran Regency is one of the rice contributor districts in West Java with a contribution of 1.6 percent or 153,421.61 tons. The center of rice in Pangandaran Regency is in (BPS, 2023b)Padaherang District with a rice field area reaching 3,670 hectares or 22 percent of the total rice field area in Pangandaran Regency. (BPS, 2023a)

According to us, rice BPP Padaherang (2016) paddy fields in Padaherang District, Pangandaran Regency are spread over 14 hectares with a raw land area of 3,740 ha, swampland of 6.07 ha, and rice fields of 3,133 hectares.

Oneeffort to increase national rice production as a result of land use change is to utilize swampland whose availability reaches 9.3 million hectares.(Guwat et al., 2018; Subagio, 2019) The use of swampland as agricultural land faces several obstacles including high soil acidity, low phosphate content that causes low productivity, and can only be planted once a year, namely in the dry season when the water begins to recede(Suparwoto, 2019) .

As part of ricefields that are in flood-prone areas, the threat needs to be watched out for because it can cause a reduction in the area of harvest and rice production. According to , Directorate General of Food Crops (2007) floodedrice fields or inundation on J awa Islandreached 1,084,217 H a (30.3 percent) and the very vulnerable 162,622 Ha (4.5 percent).

The problem faced by farmers in Ciganjeng Village, Padaherang District, Pangandaran Regency is the water condition that is difficult to control, so farmers have to plant several times which ultimately affects high production costs. On the other hand, productivity is low and during the rainy season the rice fields are flooded and in the dry season the rice fields are dry. According to Azwar et al. (2019), this can lead to inefficient rice farming in swampland.

Based on the characteristics of the swampland , this study aims to analyze the feasibility of rice farming in the swampland of Pangandaran Regency.

RESEARCH METHODS

This study used a survey method on farmers who run rice farming on swampland in the Gunabakti Mulya Farmer Group, Ciganjeng Village, Padaherang District, Pangandara Regencyn as many as 20 people. Farmer respondents are determined by census, meaning that all farmers are taken entirely as samples. The data used are in the form of primary data obtained through structured interviews using questionnaires and secondary data obtained through documentation studies from related agencies and agencies.

The research objectives were analyzed descriptively quantitatively using cost, revenue , revenue, and R/C (*Revenue Cost Ratio*) analysis using the following formula Suratiyah (2015) :

1. Cost Analysis

   $TC = FC + VC$

   Where:

   TC = *Total Cost*

   FC = *Fixed Cost*

   VC = *Variable Cost*

2. Acceptance Analysis

   Where:

   $TR = P.Q$

   TR = *Total Revenue*

   P = *Price*

   Q = *Quantity*

3. Analisis Revenue

   $\pi = TR - TC$

   Where:

   TR = *Total Revenue*

   TC = *Total Cost*

4. Feasibility Analysis

   $\dfrac{R}{C}$

   Where:

   R = *Revenue*

   Q = *Cost*

RESULTS AND DISCUSSION

Cost Analysis

The cost of paddy farming per hectare in one planting season in the Guna Bakti Mulya farmer group of Ciganjeng Village can be seen in Table 1.

Table 1.Cost of   Swamp Rice Farming **per Hectare in Ciganjeng Village**

No	Types of Fees	Amount (Rp)	Percentage (%)
1	Fixed Cost:		
	- PBB	70.000	0,83
	- Depreciation Tool	183.235	2,17
	Total Fixed Costs	253.235	3,00
2	Variable Costs:		
	- Production Facilities	1.253.195	14,85
	-Workforce	6.687.268	79,24
	Total Variable Costs	7.940.463	94,09

3	Capital Interest	245.811	2,91
4	Total Cost	8.439.509	100,00

Table 1 shows that the most dominant cost incurred by farmers is labor costs which reach 7.9 percent. The results of the analysis showed that the use of labor ranged from 98 to 127 with an average of 118 HOK per hectare per planting season with a wage of Rp 75,000 per HOK. The jobs that use the most labor are tillage, planting, and harvesting.The use of labor in each of these jobs usually varies in the sense that farmers who cultivate large areas of land usually use labor outside the family, while farmers who cultivate narrow land use more labor in the family.

The results of the study revealed that the large use of labor can be understood considering that in one planting season, farmers do not only plant once or even four to five times. The results of interviews with farmers revealed that farmers usually carry out repeated planting as a result of flooded rice fields. In fact, it is not uncommon for a few days after planting, their fields are submerged in water which causes rice plants to die so that farmers replant. This is in line with the results of research Joseph (2018) that farmers in flood-prone areas have to plant repeatedly because farmers do not know when floods will occur.

The frequent planting of farmers not only affects the use of labor but also affects the use of seeds and fertilizers. The use of farmers' seeds ranges from 50 to 60 Kg per hectare, whereas according to technical standards only 25 to 30 Kg per hectare. Likewise, the use of urea fertilizer reaches twice the technical standard of 450 to 620 kg per hectare.

The results of the analysis show that the total cost incurred by farmers per hectare is Rp 8.439.509,-

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Revenue and Revenue Analysis

Revenue is obtained from production multiplied by the selling price, while income or profit is the difference between revenue and production costs.

The grain produced by farmers varies from 2.1 to 2.6 tons with an average of 2.4 tons per hectare in one growing season. Low productivity can be understood considering that farmers cultivate rice in swampland with varieties that are not adaptive in swampland. The results of interviews with farmers revealed that the variety commonly grown by farmers is IR64 on the grounds that they are used to using the variety. According to Guwat et al. (2018); Subagio (2019); Suparwoto (2019)him, rice productivity in swampland or commonly referred to as sub-optimal land is indeed low due to the pyrite content that can poison rice plants so that new adaptive high-yielding varieties are needed in swampland.

Price is closely related to the quality of the grain produced, the better the quality of the grain, the higher the price received by farmers. The results of interviews with farmers show that the prices received by farmers are quite varied which ranges from Rp 400. 000,- up to Rp 430.000,- per quintal. The low price of grain is recognized by farmers that the rice produced is blackish in color so farmers rarely sell the harvested grain unless they need cash immediately. According to rice Joseph (2018) , the blackish color indicates low grain quality so it is less preferred by consumers.

The results of the analysis showed that the revenue obtained by farmers per hectare per planting season ranged from Rp 10,025.250,- up to Rp 10,586,348,- with an average of Rp 10,279,425,-. Meanwhile, the total cost incurred by farmers per hectare per planting season ranges from Rp 8.250.000,- up to Rp 8,625,324,- with an average of Rp 8,439,509,-. Based on this, the income received

by farmers per hectare per planting season ranges from Rp 1.5to 10.000,- up to Rp 1.9 40.000,- with an average of Rp 1.839.916,-.

Revenue and income of paddy farming per hectare in one planting season in Ciganjeng Village, Padaherang District can be seen in Table 2.

Table 2. Average Revenue and Income of Rice Farming per Hectare in Ciganjeng Village, Padaherang District

No	Description	Result
1	Grain Production (kg)	2.433
2	Price (Rp/Quintal)	422.500
3	Reception (Rp)	10.279.425
4	Total Cost (Rp)	8.439.509
5	Revenue (Rp)	1.839.916

Farm Feasibility Analysis

Farm feasibility is approached with the R/C approach which is a comparison between total revenue obtained and total costs incurred. The results of the analysis showed that with an average revenue of IDR 10,279,425 per hectare per planting season and an average cost incurred by farmers of IDR 8,439,509 per hectare per planting season, an R/C value of 1.22 was obtained. Based on the results of this calculation, the amount of profit obtained by farmers is 0.22, meaning that each farmer spends Rp 1, - then will get an income of Rp 0.22. The results of research Azwar et al. (2019) on the same agroecosystem show that the R/C of rice farming in swampland, Lakbok District, Ciamis Regency is feasible with an R/C of 1.80.

The results of the analysis indicate that the farm is still feasible to cultivate because it is greater than 1. According to him, the greater the R/C value, Apriani et al. (2016)the greater the profit obtained by farmers, and vice versa, the smaller the R/C value, the smaller the profits obtained by farmers from the farming they run.

CONCLUSION

Based on the results of the study, it can be concluded that the total expenditure of farmers per hectare on average is Rp 8,439,509, -, the average revenue per hectare is Rp 10,279,425,-, and the average income per hectare is Rp 1,839,916,-. Thus, rice sahatani in swampland is feasible to cultivate with an R/C value of 1.22, meaning that every Rp 1, - costs incurred will be obtained revenue of Rp 1.22, - so as to get income of Rp 0.22, - .

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