

Analysis And Factors Affecting The Income Of Organic Curly Red Chili (*Capsicum Annum L.*) In Gedangan Village, Cepogo District, Boyolali Regency

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Analysis And Factors Affecting The Income Of Organic Curly Red Chili (*Capsicum Annum L.*) In Gedangan Village, Cepogo District, Boyolali Regency

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Abstract. This study aims to analyze the factors that affect the income of organic curly red chili farming in Cepogo District, Boyolali Regency. Sampling was done by random sampling. The results of the study are the average total cost of Rp. 5,637,058 per hectare. The average income received by farmers after the product obtained is sold per farm of Rp. 110,050,711 per hectare. The average income received by farmers per farm is Rp. 105,914,352 per hectare. Production factors that have a very significant effect on production are land area, seeds, liquid organic fertilizer, and labor costs. Production factors that have a significant effect on production are land area, labor, organic fertilizer. Production factors that have a significant effect on production are pesticides. better preparation for handling weather and climate changes is needed. Changes in weather and climate seem to greatly affect the spread of pests and diseases as evidenced by the high cost of organic pesticides and liquid organic fertilizers.

1. Introduction

Organic farming is an agricultural cultivation technique that relies on natural ingredients without the use of synthetic chemicals. The main goal of organic farming is to provide agricultural products, especially food that is safe for the health of producers and consumers and does not damage the environment[1]. A healthy lifestyle has been institutionalized internationally, which requires guarantees that agricultural products must be safe for consumption (food safety attributes), have high nutritional content (nutritional attributes), and be environmentally friendly (eco-labeling attributes)[2]. Consumer preferences like this cause the demand for world organic agricultural products to increase rapidly[3].

Curly red chili is the most popular type of chili among the people, this is because these agricultural products have become part of the culinary food culture of the Indonesian people[4]. This shows that curly red chili is very potential to be cultivated by Indonesian farmers. Chili is an agricultural product that has become part of Indonesian culinary culture where in general Indonesian people like spicy food. In 2002, 2005, and 2008 the consumption pattern of the Indonesian people towards chili increased, namely 1.42 kg/year or capital, 1.51 kg/year or capital, and 1.54 kg/year or capital[5]. In addition to the increasing consumption pattern of the Indonesian people towards chili, chili is also said to be important when viewed from the total area of chili cultivation in Indonesia, wherein 2007 the chili planted area was 20.3

percent of the total vegetable growing area, then increased in 2008 by 20.6 percent of the total vegetable area in Indonesia.

Problems with curly red chili farming in the Utomo Jayan farmer group in Gedangan Village can be approached from plant productivity, where increasing the productivity of curly red chili can be done by increasing its production. Although the geographical conditions of Gedangan Village are very supportive of the growth of curly red chili, it does not necessarily increase the production of curly red chili farming carried out by farmers of Gedangan Village. This is because the increase in production is not only influenced by fertile soil conditions[6]. Increasing production can be achieved by planting high-yielding varieties, balanced use of fertilizers and pesticides, and proper post-harvest handling[7].

Productivity that is not optimal is thought to affect the income conditions of curly red chili farmers[8]. Therefore, to see the impact of the non-optimal productivity, it is necessary to analyze the income of curly red chili farmers in Gedangan Village, to know the extent to which curly red chili farming activities provide benefits for farmers in Gedangan Village, District Cepogo, Boyolali Regency.

Gedangan Village was one of the areas that produce organic curly red chili, although it is not so developed compared to the areas that produce organic curly red chili in Indonesia. The harvested area, production, and productivity of organic curly red chili in the Utomo Jayan Farmer's Group in Gedangan Village, Cepogo District, Boyolali Regency were lower than all over areas that produce organic chili.

2. Methods

Analysis of data used was descriptive-analytical method, include:

Farming Income

$$\text{Revenue} = \text{TR} - \text{TC}$$

$$\text{TR} = \text{Py} \cdot \text{Y}$$

$$\text{TC} = \text{VC} + \text{FC}$$

Description :

TR = Total Revenue (Rp) ; TC = Total Cost (Rp) ; Py = Price per unit of production (Rp) ; Y = Total Production (Rp) ; VC = Variable cost (Rp) ; FC = Fixed costs (Rp)

Total revenue (TR)

$$\text{TR} = \text{Y} \cdot \text{Py}$$

Y = Production (kg)

Py = Price received (Rp/kg)

Total Expenditure (TC)

$$\text{TC} = \text{FC} + \text{VC}$$

FC = Fixed Cost (Rp)

To determine the influence of the use of factors who affect income, using the model of the Cobb-Dougllass function. The Cobb-Dougllass function forms the equation can be written as follows:

$$Y = X_1^{b1} \cdot X_2^{b2} \cdot X_3^{b3} \cdot X_4^{b4} \cdot X_5^{b5} \cdot X_6^{b6} \cdot e$$

Description :

Y = Income (Kg) ; X1 = land area (Ha) ; X2 = Seedling (kg) ; X3 = Liquid Organic Fertilizer (L) ; X4 = Fertilizer cage (kg) ; X5 = Pesticide (L) ; X6 = Tenaga Kerja (HKO) ; e= Error

3. Results and Discussion

3.1 Farming Income of Organic Curly Red Chili

The average income per farm was Rp. 18,708,621.00 or Rp. 106,298,982.95 per hectare. The average expenditure per farm is Rp. 1,287,517 or Rp. 7,315,437.5 per hectare. Revenue is the difference between receipts and total expenses or total costs. The average income received by farmers per farm is Rp. 17,735,866 or Rp. 100,771,965.91 per hectare.

3.2. Analysis of Factors That Affect Income of Farm Chili Red Curly Organic

Table 1. Dependent Variable: Curly Red Chili Income

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	15.759	3.206		4.915	0.000
ln_x1	0.542	0.161	0.523	3.376	0.003
ln_x2	0.452	0.146	0.400	3.098	0.005
ln_x3	-0.336	0.283	-0.169	-1.185	0.248
ln_x4	-0.196	0.186	-0.111	-1.051	0.304
ln_x5	0.031	0.216	0.020	0.141	0.889
ln_x6	0.136	0.190	0.110	0.715	0.482

Based on the results of the t-test in the Coefficients table above, it shows that:

3.2.1. Land area (X1)

The results of the t-test analysis show that the land area factor has a t-value (3.376) with a significance of $0.003 < 0.01$ and 0.05 meaning that the land area has a significant effect on income. The regression coefficient value is positive at 0.542, meaning that every 1% increase in the area of land used will increase the amount of income by 0.542%. Assuming other variables are considered constant. According to the results of the research that has been done, the land area is enough to affect production results because the larger the land area, the more plant population it is possible to increase the amount of production and vice versa if the land area is small, the number of plants is getting smaller. This is in line with the results of research by Mubyarto, land as one of the factors of production that has a significant contribution to farming[9], and the best land for chili cultivation was land with good technical irrigation[10].

3.2.2. Seeds (X2)

The results of the t-test analysis show that the seed factor has a t-count value (3.098) with a significance of $0.05 > 0.01$ and 0.05 , meaning that the seed has a significant effect on income. The regression coefficient value is positive at 0.452, meaning that every 1% increase in the seeds used will increase the total income by 0.452%. Assuming other variables are considered constant. Explaining seeds has a significant effect on the income of curly red chili farmers in Gedangan Village. The use of seeds released by farmers depends on the area of land owned by each curly red

chili farmer himself[11]. The cost of seeds has a significant effect on the income of curly red chili farmers.

3.2.3. Liquid Organic Fertilizer (X3)

The results of the t-test analysis show that the liquid organic fertilizer factor has a t-value (-1.185) with a significance of $0.248 > 0.01$ and 0.05 , meaning that liquid organic fertilizer has no significant effect on income. The regression coefficient value is negative at -0.336 , meaning that every 1% increase in liquid organic fertilizer used will decrease the total income by -0.336% . Assuming other variables are considered constant. Stating that the cost of manure has no significant effect on the income of curly red chili farmers. So the use of suitable liquid organic fertilizers can provide better productivity and increase farmers' income[12]. According to Priantoro who said that some problems in the cultivation of curly red chilies in dry land that cause low production, apart from abiotic and biotic factors, also because cultivation is still traditional, using low yield potential, low plant population, and the use of organic fertilizers. suboptimal liquid.

3.2.4. Manure (X4)

The results of the t-test analysis show that the manure factor has a t-count value (-1.051) with a significance of $0.304 > 0.01$ and 0.05 , meaning that manure has no significant effect on income. The regression coefficient value is negative at -0.196 , meaning that for every 1% increase in the pesticide used, the total income will decrease by -0.196% . Assuming other variables are considered constant. Stating that the cost of manure has no significant effect on the income of curly red chili farmers. Manure contains fewer nutrients than artificial fertilizers[13]. According to Priantoro who said that several problems in the cultivation of curly red chili in dryland caused low production.

3.2.5. Pesticide (X5)

The results of the t-test analysis show that the pesticide factor has a t-count value (0.141) with a significance of $0.889 > 0.01$ and 0.05 , meaning that pesticides have no significant effect on income. The regression coefficient value is positive at 0.031 , meaning that every 1% increase in pesticides used will increase the total income by 0.031% . Assuming other variables are considered constant, explaining about pesticides has no significant effect on the income of curly red chili in Gedangan village. According to farmers in Gedangan village, this is because the weeds are not too high until harvest time, so they are not made into a pest nest or a breeding ground for pests[14]. So the use of pesticides by farmers is rarely done in one growing season and the cost of pesticides issued by farmers is not large, therefore the cost of pesticides has no significant effect on income.

3.2.6. Labor (X6)

The results of the t-test analysis show that the labor factor has a t-count (715) with a significance of $0.482 > 0.01$ and 0.05 , meaning that labor has no significant effect on income. The regression coefficient value is positive at 0.136 , meaning that every 1% increase in the workforce used will increase the amount of income by 0.136% . Explaining that labor costs have no significant effect on the income of curly red chili farmers. Curly red chili farmers do not pay attention to the growing season when curly red chili production will decrease, but farmers use the same amount of labor as the previous planting season which is higher in production, and every time they carry out the production process the farmers will incur labor costs while the curly red chili production is different with the previous season's production. So that labor costs have no significant effect on the income of curly red chili farmers.

Conclusion

Based on the results of research on organic curly red chili farming in the "Utomo Jayan" Farmer Group, Gedangan Village, Cepogo District, Boyolali Regency in 2020 it can be concluded: 1) The average total

cost per farm is Rp. 1,287,517 or Rp. 7,315,437.5 per hectare. Revenue is the difference between receipts and total expenses or total costs. The average income received by farmers per farm is Rp. 17,735,866 or Rp. 100,771,965.91 per hectare. (2) Production factors that have a significant effect on income are land area and seeds. Production factors that have no significant effect on income are liquid organic fertilizer, manure, pesticides, and labor. better preparation for handling weather and climate changes is needed. Changes in weather and climate seem to greatly affect the spread of pests and diseases as evidenced by the high cost of organic pesticides and liquid organic fertilizers.

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PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6
