



ANALYSIS OF PRODUCTION RISK AND INCOME OF SWEET CORN FARMING IN CAMPAGAYA VILLAGE, GALESONG DISTRICT, TAKALAR

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Abstract

Sweet corn is a palawiji commodity that is much liked by the public. This commodity is a vegetable that can be used in a variety of foods. The many benefits of sweet corn in people's lives have resulted in the high demand for sweet corn for the community and the market opportunities are always wide open. The high demand for sweet corn from the wider community indicates that sweet corn productivity must be increased. One of the ways to increase productivity in terms of income can be done by calculating the production risk and income in sweet corn farming. This study aims to determine the risks that occur in the production and how much income sweet corn farming is. The method used is a population census of sweet corn farmers as many as 26 people, then a 100% sample is taken so that the sample is 26 people. Meanwhile, for production data analysis using coefficient of variation analysis and for sweet corn farming income using income analysis. The results of the study aimed at analyzing the production risk and income of sweet corn farming. Analysis of the risk of sweet corn production from the coefficient of variation (CV) of 0.017, meaning that sweet corn production has a low risk, while sweet corn farming income is Rp. 1,707.181.

Keywords: Production risk and sweet corn farming income

1. Introduction

Corn is a cereal that has strategic and economic value and has the opportunity to be developed because of its position as the main source of carbohydrates and protein after rice as well as a source of feed (Purwanto, 2008). Efforts to increase corn production are still facing various problems so that domestic corn production has not been able to meet national needs (Soerjandono, 2008).

One of the causes of low maize yields is the presence of weeds on the maize crop. The effects of weeds on plants can be direct, competing for nutrients, water, light and growing space. Weeds left uncontrolled on corn can reduce yields by 20-80% (Bilman, 2011). Purba (2011) suggested that yield losses due to weeds averaged 10% (15% in the tropics) and common weeds reduced yields to 31% in maize.

Weed control using herbicides is in great demand by farmers, especially for large agricultural land. The use of herbicides is sought so as not to have a negative effect on cultivated plants, because of that, efforts are made to find compounds that are selective and in the right way and application (Sukman and Yakub, 1995).

In agricultural areas where labor is very limited, farmers generally tend to use herbicides as a weed control tool, but herbicides also often cause harm to farmers because they can cause death not only for weeds but also for cultivated plants. To overcome the death of corn plants, herbicide tolerant corn has been produced using recombinant DNA techniques.

This study aims to prove the resistance of the corn to the active ingredient glyphosate contained in the herbicide and to see whether the application of this herbicide affects the growth and yield of genetically engineered maize (GM) is 100 ml for herbicide and 1000 ml for water, electric oven, analytical scales, raffia string, tape measure, brown envelope, treatment board, camera, stationery, hoe, and Leaf Area Meter.

2. Methods

This research was conducted in Campagaya Village, Galesong District, Takalar Regency. The selection of the location was determined intentionally (purvosipe) because it was in accordance with the place of community service and in Campagaya Village, Galesong District, Takalar Regency.

The data to be taken in this research is sourced from primary data and secondary data. Primary Data, is data obtained through direct interviews with sweet corn farmers. Secondary data is data obtained from the literature, both from books, journals and from the results of previous studies which are used as complementary or supporting data in research. In addition, secondary data can also be obtained from various government agencies that are related to the research.

The sample selection method used in this research is census research. Census research is a study that takes a population group as a whole and uses a structured questionnaire as the main data collection tool to obtain specific information (Usman & Akbar, 2008).

2.1 Data analysis method

Data analysis conducted in this study consisted of qualitative analysis and quantitative analysis. Qualitative analysis was carried out through a descriptive approach. While quantitative analysis consists of risk analysis by calculating standard deviation, coefficient of variation (standard variation), lower limit value, production, price and income. This method is used, among others, by Ihsanudin (2010) regarding the risks of tobacco farming in Magelang Regency, Lamusa (2010) analyzing the risk of household lowland rice farming in the Impenso area of Central Sulawesi Province, Arifin (2013) analyzing the risk of production and income of land ownership in the central area. rice production in Pinrang Regency, Heriani et al (2013) examined the analysis of the benefits and risks of tomato farming in Sumberejo District, Tanggamus Regency, and Imelda (2012) researched on business risk analysis in catching mangrove crabs in Sungai Kunyit District, Pontianak Regency.

2.2 Analysis of production risk and sweet corn farming income

To find out the amount of production and selling price, direct interviews with mansi corn farmers were conducted. To find out income, it is calculated by calculation steps according to Soekartawi (1995).

Risk assessment can be done by measuring the value of deviations that occur. According Kadarsan (1995), to analyze business risk can be done by using the steps to calculate the expected results (CV). In measuring risk systematically, the measures of variance (variance) and standard deviation (standard deviation) are used. The risk coefficient is a comparison between the risk that must be borne by the farmer and the profit that will be obtained as a result of the amount of capital invested in the production process. This shows that the greater the value of the risk coefficient, the greater will be borne by the shrimp farmers.

The relationship between the lower limit of the highest yield (CV) and the coefficient of variation (CV), namely: If $CV > 0.5$, it means that the risk is greater for farmers. If $CV < 0.5$, it means that farmers always profit or break even

3. Results and Discussion

This research was conducted to find out how much production risk and how much sweet corn farming income can be seen from several tables.

3.1 Fixed cost

Fixed costs for sweet corn farming in the research area are equipment depreciation costs and land tax costs. The average use of fixed costs in sweet corn farming can be seen in Table 1 below:

Table 1. Average Total Fixed Costs in Sweet Corn Farming

Uraian	Total biaya tetap (Rp)	Rata-Rata Biaya Tetap (Rp)
a)Pajak Lahan	539.000	20.731
b)Npa	8.715.489	335.211
Jumlah	9.254.489	355.942

This depreciation cost is calculated in depreciation cost per year based on the calculation of the purchase price and divided by the economic age, so that the size of the average depreciation cost that must be incurred by sweet corn farmers depends on the size. From the calculation results, the average total depreciation cost of the equipment is Rp. 335,211/year. This is due to the production time per year.

Sweet corn farmers are required to pay taxes for the land used as a sweet corn farming place. The basis for calculating tax for each year is the ratio of land area multiplied by the annual tax rate per hectare. In the study area, the annual tax fee is IDR 539,000. From the data in Table 1, it shows that the average tax expense incurred each season is the same, which is Rp. 20,731/year. This is because there is no increase in farmers' land area used by sweet corn farmers.

3.2 Variable Cost

Variable costs are costs incurred in conducting business and variable costs are costs that can vary every year and are uncertain and to see variable costs can be presented from the table as follows The average variable costs can be seen in Table 2 below:

Table 2. Average Total Variable Costs in Sweet Corn Farming

Uraian	Total Biaya Variabel (Rp)	Rata-Rata Biaya Variabel (Rp)
Benih	5.505.000	211.731
Pupuk	10.992.800	422.800
Pestisida	4.570.000	175.769
Tenaga kerja dalam keluarga	8.540.000	328.462
Tenaga kerja luar keluarga	5.560.000	213.846
Karung	411.000	15.808
Jumlah	35.578.800	1.368.415

This variable cost is the cost incurred per season and during mansi corn farming activities. Variable costs incurred annually and the average total cost per year is Rp. 1.368.415/year. The largest variable cost incurred is the cost of fertilizer. The average

cost is Rp. 422,800. The high cost of fertilizer is because fertilizer is one of the methods of farming production and maximizing crop yields.

3.3 Total cost

Total costs are all costs incurred in shrimp pond cultivation, namely the sum of total fixed costs and total variable costs. Details of the average total costs are shown in Table 3.

Table 3. Average Total Cost of Sweet Corn Farming

Uraian	Total Biaya (Rp)	Rata-Rata Total Biaya (Rp)
Biaya Variabel	35.578.800	1.368.415
Biaya Tetap	9.254.490	355.942
Jumlah	44.833.290	1.724.357

From the sum of fixed costs and variable costs, the average total costs incurred each season period are Rp. 1,724,357 while the total costs incurred are Rp. 44,833,290. The total costs incurred in sweet corn farming sometimes change because prices are not fixed or change so we cannot set fixed costs every season.

3.4 Production and Revenue of Sweet Corn Farming

Details on the average production and income of sweet corn farming in the study area are presented in Table 4 below.

Table 4. Average Production and Beneficiaries in Sweet Corn Farming

Uraian	Total (Kg) (Rp)	Rata-Rata Total (Kg) (Rp)
Produksi	76.700	2.950
Penerima	89.220.000	3.431.538
Jumlah	89.296.700	3.434.488

Based on the table above, sweet corn farming has a production of 76,700 kg while the average production is 2,950 kg and the higher the production, the greater the recipients of sweet corn farming and sweet corn farming recipients have Rp 89,296,700 while for the average corn farmer recipients mansi amounting to Rp. 3,434,488 and the higher the recipients get the farmers and the more benefits the farmers receive.

3.5 Income

Income is the result of farming recipients who can be deducted from the total revenue with the total costs incurred during the farming process which can be seen from table 5 below.

Table 5. Average Income in Sweet Corn Farming

Uraian	Total (Rp)	Rata-Rata Total (Rp)
Penerima	89.220.000	3.431.538
Biaya	44.833.290	1.724.357
Jumlah	44.386.710	1.707.181

Based on table 5, it is known that sweet corn farming recipients are IDR 89,220,000 while the average sweet corn farming revenue is IDR 3,431,538 and the costs incurred by farmers are IDR 44,833,290 and the average costs incurred by farmers are IDR 1,724. 357. for sweet corn farming income, farmers get a profit of Rp. 1,707,181.

3.6 Production Risk Analysis

Risk analysis is very important for sweet corn farmers in making decisions before they start farming. The risk analysis approach is based on the results obtained by sweet corn farmers over a certain period. The data used to analyze the risk of sweet corn farmers is production data from the income of sweet corn farming during the harvest season. Production risks that occur can be caused by production facilities, weather, pests and diseases, pests and diseases so that it can result in a decrease in yield of up to 65% and can even cause crop failure (Cahyono, 2008). Details of production risk analysis in sweet corn farming can be seen in Table 6 below:

Table 6. Risk analysis in sweet corn farming

No	Uraian	Jumlah (Kg)
1	Rata-Rata Produksi (Kg)	2.950
2	Standar Deviasi (Kg)	51,64
3	Koefisien Variasi (CV)	0,017

Based on table 6 above, it shows that the average production of sweet corn farmers is 2.950 Kg/Ha/Year. From the production calculation, it can be seen that the standard deviation of sweet corn is 51.64 Kg/Ha/Season. So that the coefficient of variation obtained is based on calculations by comparing the average production with a standard deviation of 0.017. The value of the coefficient of variation $<$ from 0.5 ($0.017 < 0.5$). The results of the analysis show that the production risk of sweet corn farmers is classified as low risk. Based on Hertanto's (1999) theory, it states that if the coefficient of variation $>$ 0.5 then the risk of farmer's farm production is getting bigger, while the value of the coefficient of variation $<$ 0.5 then sweet corn farmers will always be profitable.

4. Conclusions

Based on the results of research in Campagaya Village, the following conclusions can be drawn:

1. The risk faced by sweet corn farmers in Campagaya Village, Galesong District, Takalar Regency is production risk. Production risk is obtained from the coefficient of variation (CV) of 0.017, so farmers are getting more profit or break even.
2. The income of sweet corn farmers in Campagaya Village, Galesong District, Takalar Regency, namely the average recipient of Rp. 3,431,538 and the average total cost of Rp. 1,724,357 recipients minus the total cost, the income of sweet corn farming is Rp. 1,707,181

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