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# The Competitiveness Analysis of Corn Farming on Peatland

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**Abstract**

Agricultural sector, especially the corn commodity, has a very rapid development, especially in Kubu Raya Regency. The product that said to be able to compete the market if it has the ability to be competitive. Products that have high competitiveness were reflected in the price and good quality. But if product was not able to compete, it will bring new problems. Therefore, it was necessary to do some analysis, such as the analysis of the farming profitability and analysis of the competitiveness corn farming in peatland in Kubu Raya Regency. The purpose of this research was to analyze profitability, competitiveness, comparative and competitive advantage of corn farming on peatlands in Kubu Raya Regency. The technique that used was the survey method. The research location was conducted in Sungai Raya and Rasau Jaya Sub-districts. The reason was because it was the area that the largest main center of the corn production in the Kubu Raya Regency. The tool for analyzing used PAM. The result of the research analysis was for financial benefits and economic benefits, corn commodities that developed in peatland areas were feasible both financially and economically. This can be proven in financial terms that obtained by farmers of 15,264,746 Rupiah ha/year and from economic benefits of 9,867,664 Rupiah on 1 hectare/year land. The results of the competitiveness analysis showed that corn farming had comparative and competitive advantages. This can be found from DRCR and PCR values that were less than one. The government, in this case, provided assistance to farmers, in the form of subsidies for fertilizer, subsidized credit interest rates, and also provided positive incentives to farmers. The policy was very helpful for farmers to increase production.

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**INTRODUCTION**

The role of the agricultural sector in Indonesia was very influential in improving the economy. One of them was the fulfillment of food needs for all Indonesian people. In the future, there will be many challenges to be faced, due to the decreasing food production capacity caused by the transfer of land function and land use, degradation of water and land resources, as a result of the overall climate turmoil. On the other hand, the need for food has increased, both in terms of total, quality and type of food (Suryana, 2014).

Through the Ministry of Agriculture's policy which set the main goal in the food sector was to increase the production of several main foods, including: corn, rice, and soybeans. Corn is a main food as substitute for rice of some residents in certain areas. Because corn was the main food, it was necessary to prioritize the development of domestic corn production, which was by increasing the efficiency of corn farming. In other aspects, in order to meet the needs of their own country, Indonesia must also be able to become a corn exporter. In order to achieve these goals, the competitiveness of national corn farming must be more improved by farmers in Indonesia.

The agricultural sector was the mainstay and had an important role in national development. As the direct role in the form of Gross Domestic Product, as a foreign exchange earner through exports, a source of food and animal feed, providing employment opportunities, becoming industrial raw materials, and improving people's incomes, and as poverty alleviation so that agricultural development can be a reference in fixing the income gap of the population and finally believed to be able to improve the welfare of all Indonesian people.

Indonesia has the largest tropical peat area in the world for about an area of twenty million ha (Agus & Subiksa, 2008). Peat lands and peat forests were spread on the islands of Papua, Borneo, and Andalas (Sumatra). In West Kalimantan Province, the area of peat reached 1.54 million hectares (BPS Province of West Kalimantan, 2018). West Kalimantan Province was a province that has a fairly large agricultural area but has not been used to its full potential. This included peat lands that have the potential to be turned into productive agricultural land, especially corn. Peat soil was a soil of Ordo Histosol that contained a layer of organic composition more than forty centimeters (Soil Survey Staff, 2010).

Kubu Raya was one of the Regency with the second largest peat area in West Kalimantan. It was spread over several Sub-districts that have peat lands, including Sungai Kakap, Sungai Raya and Rasau Jaya Sub-districts. Productive peat land areas were good for developing corn farming. Rasau Jaya was a Sub-district which was divided into five villages, twenty-one hamlets and an area of 11.07 km$^2$ (BPS, 2016). Rasau Jaya in increasing support for the agriculture land such as rice and corn was a promising commodites, the increase in corn production in Rasau Jaya Sub-district always increased every year. In the last few years, the Rasau Jaya Sub-

district has shown encouraging achievements in improving the economy, especially from the agricultural sector. Corn productivity in West Kalimantan Province in 2018 increased from the previous year, especially in the Kubu Raya Regency (BPS, 2018).

**Table 1. Harvest Production Area and Crops Production Average in Kubu Raya Regency**

| No. | Sub-district | Land Area (hectare) | Production Average (ton /hectare) | Production (ton) |
|---|---|---|---|---|
| 1 | Batu Ampar | 325 | 28,17 | 916 |
| 2 | Terentang | - | - | - |
| 3 | Kubu | 669 | 29,2 | - |
| 4 | Teluk pakedai | 220 | 28,52 | 1.953 |
| 5 | Sungai Kakap | - | - | - |
| 6 | Rasau Jaya | 477 | 29,53 | 627 |
| 7 | Sungai Raya | 1.004 | 29,19 | 2.931 |
| 8 | Sungai Ambawang | 12 | 28,64 | 34 |
| 9 | Kuala Mandor B | 61 | 29,2 | 178 |
| | 2015 | **2.768** | **29,08** | **8.048** |
| | 2014 | 2.982 | 29,1 | 8.048 |
| | 2013 | 4.095 | 29,13 | 8.048 |
| | 2012 | 7.135 | 29,13 | 8.048 |
| | 2011 | 6.953 | 29,08 | 8.048 |

Source: Kubu Raya Regency's Central Bureau Statistic Year (2016)

## RESEARCH METHOD

### Data Collection

The research conducted at Sungai Raya and Rasau Jaya Sub-district in Kubu Raya Regency, the reason was those two Sub-districts were the biggest main production area of peat land corn at Kubu Raya Regency.

### Data Analysis

To find out some benefits that were received, used the formula of profit and loss tabulation which was as follows:

$$\boldsymbol{\pi = Y.Py - \sum_{t=1}^{n} Xi, P\,xi - BTT}$$

Corn farming can be said as profit to farmers if the total cost was lower than the corn farmers' returns. The formula above was followed by finding *Return Cost* R*atio* (Soekartawi, 1995). The formula as follows.

$$R/C = TR/TC$$

### PAM *(Policy Analysis Matrix)*

The analysis tools was used to find out the peat land corn competitiveness development PAM is an analysis method that used to find out the economic efficiency

and the incentive amount or as a result of intervention in the achievements of various farming activities as a whole and systematically.

**Table 2. PAM (*Policy Analysis Matrix*)**

| Description | Gross Returns | Cost | | Profits |
|---|---|---|---|---|
| | | ***Tradeable* Input** | **Domestic Factor** | |
| Private Price | A | B | C | D |
| Social Price | E | F | G | H |
| Difference | I | J | K | L |

*Information: I = A – E; J = B – F; K = C – G; L = D – H.*

Production cost, return amount and commerce cost was included in the social and private cost, then, was taken for t*radeable* and *non tradeable* components. Based on the calculation, the matrix formula structure of Policy Analysis Matrix was as follows.

1. *Private Cost Ratio* = C/(A – B)
2. DRCR (*Domestic Resources Cost Ratio*) = G/(E – F)

## RESULT AND DISCUSSION

### Profit Analysis (Profitability)

The profit analysis result was private profit (private divided to pp) and social profit (Social Profitability). The return difference with real cost that obtained or paid to the farmer or Private Profitability. PP>0 Value, means financially produced profit and that commodity has competitive advantage.

***Private Profitability* (PP); D = A – (B + C )**

= Private Return – (*Tradable* Input Cost Private + *Non Tradable* Input Cost Private) ..... (1)

SP (*Social Profitability*) showed the inequality between returns and costs calculated through social prices. If the SP value > 0 then economically it was profitable or the commodity has a comparative advantage.

**SP (*Sosial Profitability*); H = E – (F + G)**

= Social Return – (*Tradable* Input Cost Social + *Non Tradable* Input Cost Social) ..... (2)

### Profit

Profit was the difference between the returns earned after deducting the production cost. The result of profit analysis for corn farming on peat land showed that the profit obtained by farmers were 4,705,016 Rupiah ha/MT or around 14,115,047 Rupiah ha/year.

### Policy Analisys Matrix

The analysis of this method covered economic and financial benefits, comparative advantages, competition and analyzed the ratio for government decisions to inputs and outputs (Monke and Pearson 1995). The analysis that obtained from the Policy Analysis Matrix (PAM) covered the scope of tradeable and non-tradeable inputs, as well as analysis of private prices and social prices, returns and profits.

***Tradeable* Input**

Tradeable inputs were a number of inputs that were traded, such as: fertilizers, seeds, and pesticides. The used of tradeable inputs in corn farming in peat land at Kubu Raya Regency.

**Table 5. The Used of *Tradeable* Input of Corn Farming**

| No | *Tradeable* Input | Description (Kg) |
|---|---|---|
| 1 | Seeds (Kilogram/Hectare) | 21,07 |
| 2 | Fertilizer (Kilogram/Hectare) | |
| | a. Manure | 1046 |
| | b. KCl | 31 |
| | c. TSP | 70 |
| | d. Urea | 188 |
| | e. NPK | 180 |
| 3 | Pesticide (ml/Ha) | |
| | a. Reagent | 1860 |
| | b. Natural | 1316 |
| | c. Others | 2.798 |

Source: Processed Primary Data (2019)

Table 5 showed that the used of *tradeable* inputs for corn farming in the peat land area of Kubu Raya Regency was partially not in accordance with the recommended dose, for example the used of seed, which was one hectare of land, based on the seed dose was 21.7 kg/ha. The same applied to fertilizer used.

***Non Tradeable* Input**

Inputs that did not have a global market price and were not sold. Non-tradeable inputs such as capital, land, labor and other expenses.

**Table 6. The Used of *Non Tradeable* Input in Corn Farming**

| No | *Non tradeable* Input | Labor | | |
|---|---|---|---|---|
| | | TKDK | TKLK | Total |
| 1 | Labor (HOK) | | | |
| | Land Cutivation | 9 | 0 | 9 |
| | Planting | 5 | 0 | 5 |
| | Weeding | 8 | 0 | 8 |
| | Fertilization | 8 | 0 | 8 |
| | Pest Control | 4 | | |
| | Disease | | 0 | 4 |
| | Harvesting | 10 | 0 | 10 |
| | Transportation | 10 | 5 | 15 |
| | Drying | 6 | 0 | 6 |
| | Modeling | 8 | 0 | 8 |
| | Total HOK | 68 | 5 | 73 |
| 2 | Work Capital | Rp. 1.148.125 | | |

| | | | |
|---|---|---|---|
| 3 | Tax | Rp | 15.000 |
| 4 | Depreciation | Rp | 296.453 |

Source: Processed Primary Data (2019)

Based on Table 6. the used of non-tradeable inputs to corn farming on peat lands of Kubu Raya Regency/hectare such as; workers were calculated on an average salary of 100,000 per working day) a total labor (HOK) of 73 working days.

While working capital was the total initial costs incurred by farmers for corn farming in the peat land area of Kubu Raya Regency/ha for one planting season as much as 1,148,125. Working capital was used in corn farming in the form of own capital and others through debt capital. In addition to land input, corn farmers paid taxes for 1 year. The amount of tax costs according to the situation and the size of the land. The taxes were paid by corn farmers as much as 15,000 Rupiah per ha per year. In addition, depreciation costs in the form of costs paid by corn farmers, on depreciation costs in the form of tools included machetes, hoes, sprayers, tarpaulins and *arco* or large carts, the costs incurred by corn farmers were 296,243 Rupiah/year.

***Social Price***

The social price was obtained from the Mundi Corn Daily Price Index (2019) of 161.02 USD/ton plus transportation and guarantee costs of 150 USD/ton then multiplied to the rupiah rate in the first quarter of 2019 of 14,240 per USD. Based on the calculation, the CIF corn price to the domestic currency value was 4,428.9 per kg, then added by the cost of loading and unloading, depreciation and so on as much as 5% by CIF and the transportation cost to the province as much as 10/kg and the price of export varieties traded was obtained 4,650.3/kg, meanwhile, to get the price of export varieties at the farmer level, therefore, the price of export varieties at the wholesaler's level was added up by the distribution costs to the farmer level as much as 55 per kg, so that obtained the price of varieties at the farmer level was 4.715/kg.

***Private Price***

1. Seed

The seeds, which was private prices, must be balanced with actual prices, the reason was that they originate in the country with no distortion, either from distortions in government decision-making or market distortions. Therefore, the determination of social pricing was approximated by actual prices. The private price of seeds was 125,000 Rupiah/25 kilograms.

2. Fertilizer

The private price of the fertilizer social price used by corn farmers in the peat land area of Kubu Raya Regency can be seen in the following table.

**Table 7. Fertilizer Private Price and Social Price in Corn Farming**

| Fertilizer Type | Private Price (Rp per kg) | FOB | Price Conversion in Rp/ kg) | 5% Hs (: Price Insurance) | Social Price |
|---|---|---|---|---|---|
| a.Manure | 498 | 30,5 | 498,1 | 24,9 | 498,1 |
| b. NPK | 2.300 | 220 | 2.300,0 | 115,0 | 2.370,0 |
| c. TSP | 2.700 | 185 | 2.700,0 | 135,0 | 2.790,0 |
| d. KCL | 8.000 | 485,3 | 8.000,0 | 400,0 | 8.355,0 |
| e. Urea | 1.800 | 130 | 1.800,0 | 90,0 | 1.845,0 |

Source: Processed Primary Data (2019)

The private prices for manure, NPK, TSP, KCl and urea, used a weighted average price of 498 per kg, 2,300 per kilo gram, 2,700 per kilo gram, 8,000 per kilo gram, and 1,800 per kilo gram. The social prices of manure, TSP, KCl, urea, and NPK that obtained from FOB manure, NPK, TSP, KCl and urea were 30.5 USD/ton, 185 USD/ton, 485.3 USD/ton, 130 USD/ton , and 220 USD/ton multiplied by the social price of the currency exchange rate, after that the costs of loading and unloading, warehouse, depreciation, etc. were added 5% by FOB of 21.72 per kilo gram, 131.72 Rupiah/kg, 345.5 Rupiah/kg,92.56 Rupiah/kg, and 156.64 Rupiah per kilogram and transport cost was 10 Rupiah per kilogram. Then reduced by the distribution cost of the farmer level of 55 per kilogram, based on this calculation, the social prices of manure, NPK, TSP, KCl and urea were 498.1 Rupiah per kg, 2,370 Rupiah per kg, 2,790 Rupiah per kg, 8,355 Rupiah per kg, and 1,845 Rupiah per kg.

3. Medicines

It was found that the social price of medicine was based on the support that provided by the government for medicines such as pesticides which had been issued in 1986 (Presidential Decree No. 2 in 1986) and the market system occurred supposed to be the free market.

4. Land Area

The market system moved if both that chosen performed a profit sharing and land rental system. Several researches were found, such as the mechanism of land pawning and land buying and selling. In principle, the land rental price for each area was not the same according to the condition and fertile of the land. The private land rental price applied in the research area was 3,000,000 Rupiah per ha per year or 1,000,000 per ha per season.

5**.** Equipment

Based on the weight of depreciation per season, this was due to the absence of a government decision to directly regulate the price of the equipment.

6. Labor

To determine labor at private prices used the wages of labor applied to the area or research area of 50,000 Rupiah per working day. The social price of labor was the same to the price of private labor. Based on the labor market system, corn production centers usually have the best accessibility, which encourages the labor

market in rural areas to be more closely connect to the labor market both regionally and by sector.

7. Rupiah Exchange Rate

The rupiah exchange rate at private prices used the Shadow Exchange Rate (SER) formula (Gittinger, 1986). The legal exchange rate that commonly used was the actual price of the exchange rate, which was the exchange rate approximately in September - December in 2018 of 13,920 Rupiah/USD. Until the final semester of 2018, the results that received by the export tax sector were 4,147,000,000, Rupiah besides that, exports in Indonesia were 197,385,600,000,000 Rupiah. Import tax & custom of 35,066,000,000, Rupiah, the value of Indonesian imports was 245,548,800,000,000 Rupiah. The calculation results showed the standard conversion value (SCF) in 2018 was 0.99.

8. Interest Rate

The interest rate (Bank Indonesia, 2018) added to the inflation rate of 3.13 percent/year (BI, 2018), resulting in a social interest rate of 9.13 percent/year.

***Private Income Analysis***

The difference between the total return and the total spent cost and calculated according to the actual price was still valid in the research area. In addition, all prices were the total costs of cash or other expenses to be taken into account. Expense costs in corn farming such as the cost of fertilizer, seeds, labor, medicines, depreciation, and capital interest and taxes.

**Table 8. Private Cost of Corn Farming**

| No | Cost Components | Value (Rp/Ha/MT) | Percentage (%) | Value (Rp/Ha/Tahun) |
|---|---|---|---|---|
| 1 | Seeds | 105.362,0 | 1,21% | 316.086 |
| 2 | Manure | 514.123,6 | 5,91% | 1.535.928 |
| 3 | TSP Fertilizer | 414.425,7 | 4,77% | 543.674 |
| 4 | KCl Fertilizer | 183.518,8 | 2,11% | 685.901 |
| 5 | Urea Fertilizer | 243.875,9 | 2,81% | 981.818 |
| 6 | NPK Fertilizer | 327.272,7 | 3,77% | 1.243.277 |
| 7 | Calcium | 324.681,5 | 3,74% | 974.045 |
| 8 | Pesticide | 650.135,5 | 7,48% | 1.973.990 |
| 9 | Labor | 3.900.000,0 | 44,87% | 11.700.000 |
| 10 | Depreciation | 296.452,5 | 3,41% | 296.453 |
| 11 | Land Rental | 1.000.000,0 | 11,50% | 3.000.000 |
| 12 | Tax | 5.000,0 | 0,06% | 15.000 |
| 13 | Total Cost (A) | 7.964.848,2 | 91,63% | 23.266.172 |
| 14 | Interest (B) | 727.190,6 | 8,37% | 2.124.202 |
| | **Total Cost (A+B)** | **3.890.318,8** | **1,000** | **10.985.214** |

Source: Processed Primary Data (2019)

Table 8 showed the largest cost item was the cost of medicines/pesticides, for the smallest cost item was tax. Overall private costs were all costs actually issued by farmers in conducting corn farming. In order to see the profit, these costs were reduced by farming returns, the multiplied selling price and production.

**Table 9. Private Income/hectare of Corn Farming**

| No | Components | Description (ha/year) |
|---|---|---|
| 1 | Production (Kilogram) | 6.956 |
| 2 | Selling Price (Rupiah/Kilo gram) | 5.246 |
| 3 | Return (Rupiah) | 37.381.219 |
| 4 | Total Cost (Rupiah) | 10.985.214 |
| Profit | | 26.396.005 |

*Source:* Processed Primary Data *(2019)*

Based on Table 9, the private profit for hybrid corn farming was 26,396,005 Rupiah ha/year. Profits or private profits were produced by returns minus the total costs issued by farmers. Profit or private outperformed the total cost incurred, this condition was due to the corn selling price of 5,246 Rupiah/kg by the total production of 6,956 kg/ha/year.

***Social Income Analysis***

The use of prices, which was the border price, was the cost of trading system plus the CIF price arrived to the area if the input or output was imported goods, or the FOB price minus trading costs if the input or output was export goods.

**Table 10 Social Price Item of Corn Farming/Hectare**

| No | Cost Components | Value (Rp/Ha/MT) | Percentage (%) | Value (Rp/Ha/Tahun) |
|---|---|---|---|---|
| 1 | Seeds | 105.362 | 1% | 316.086 |
| 2 | Manure | 514.124 | 6% | 1.542.371 |
| 3 | TSP Fertilizer | 427.039 | 5% | 1.281.116 |
| 4 | KCl Fertilizer | 189.636 | 2% | 568.908 |
| 5 | Urea Fertilizer | 254.698 | 3% | 764.094 |
| 6 | NPK Fertilizer | 335.455 | 4% | 1.006.364 |
| 7 | Calcium | 327.065 | 4% | 981.194 |
| 8 | Pesticide | 650.135 | 7% | 1.950.406 |
| 9 | Labor | 3.900.000 | 45% | 11.700.000 |
| 10 | Depreciation | 296.453 | 3% | 889.358 |
| 11 | Land Rental | 1.000.000 | 11% | 3.000.000 |
| 12 | Tax | 5.000 | 0,1% | 15.000 |
| 13 | Total Cost (A) | 8.004.965 | 92% | 24.014.896 |
| 14 | Interest (B) | 730.853 | 8% | 2.192.560 |
| **Total Cost (A+B)** | | **8.692.038,8** | **100** | **25.390.374** |

Source: Processed Primary Data (2019)

Table 10 was seen for the social costs of corn farming, the highest labor costs or touched 45%. The total social costs of corn farming were 25,390,374 private and 26,207,456 Rupiah of the social costs. Social returns by current prices was 4,715 Rupiah/kg, therefore the impact on social return was 32,801,220 Rupiah as shown in Table 11.

**Table 11 Social Income/hectare of Corn Farming**

| No | Components | Description (Kg/ha/year) |
|---|---|---|
| 1 | Production (Kilogram) | 6.956 |
| 2 | Selling Price (Rupiah/kilogram) | 4.715 |
| 3 | Return (Rupiah) | 32.801.220 |
| 4 | Total Cost (Rupiah) | 26.207.456 |
| | **Profit** | **6.593.764** |

Source: Processed Primary data (2019)

***Profit Analysis***

Production costs, returns values, and trading costs were then calculated in social and private costs, followed by the allocation of tradeable and non-tradeable components, so that a PAM matrix can be arranged based on to the calculation.

**Table 12 Policy Analysis Matrix of Corn Farming**

| No | Description | Return | Input Cost | | Profit |
|---|---|---|---|---|---|
| | | | Tradeable | Non-tradeable | |
| 1 | Private Cost | 37.381.219 | 8.254.720 | 13.861.754 | 15.264.746 |
| 2 | Social Cost | 32.801.220 | 8.410.538 | 14.523.017 | 9.867.664 |
| 3 | Divergence | 4.580.000 | -155.818 | -661.263 | 5.397.082 |

Source: Processed Primary Data (2019)

The measurement of competitiveness in a commodity can be performed by private and social (economic) aspects. Total valuation at current prices (see table 13).

**Table 13. PAM Analysis**

| Description | Value |
|---|---|
| Financial Profit D = A – (B + C) | 15.264.746 |
| Social Profit H = E – (F + G) | 9.867.664 |
| Financial Efficiency (PCR) = C/(A – B) | 0,5 |
| Economic Efficiency (DRCR) = G / (E – F) | 0,6 |
| Output Transfer (OT) = A – E | 4.580.000 |
| Nominal Protection Coefficient to the Output (NPCO) = A/ E | 1,1 |
| Input Transfer IT = B – F | -155.818 |
| Nominal Protection Coefficient to the Input (NPCI) = B / F | 0,98 |
| Factor Transfer (FT) = C – G | -661.263 |
| Effective Protection Coeeficient (EPC) = (A – B) / (E – F) | 1,2 |
| Net Transfer (NT) = D – H | 5.397.082 |
| Profitability Coefficient (PC) = D / H | 1,5 |
| Producer Subsidy Ratio (SRP) = L / E | 0,16 |

Source: Processed Primary Data (2019)

The calculation results of the financial and economic benefits of developing corn commodities in the peat land of Kubu Raya Regency feasible to be managed financially or economically. Corn farming was feasible if the financial benefits were obtained by farmers as much as 26,396,006 Rupiah/year from 1 hectare of land (Radiansah, Radian, & Nurliza, 2016).

The data analysis that has been done was the economic profit received by farmers was greater than the financial profit. The reason was the output price obtained by farmers was 5,246 per kilogram. The international market price was 4,428 per kilogram. Corn had a higher price in the local market than in the world market price. It required several operational regulations and policies, such as: eliminating and reducing various market distortions that hinder the development of corn farming, including the abolition of import customs for agricultural production equipment, creating superior and affordable corn seeds and providing physical or economic infrastructure that can increase the accessibility of corn production centers (Kurniawan, 2011).

The low social price of corn was caused by several factors including the high export tax rate and approved by the government, in the form of retribution experienced by the factory or exporter, and other taxes and resulting in high prices produced by farmers compared to the actual price.

## CONCLUSION

In conclusion, the research results of corn farming in Kubu Raya Regency, Sungai Raya and Rasau Jaya Sub-district have farming profit of 11,990,846 Rupiah ha/year. The results of the analysis showed corn farming had competitiveness including comparative and competitive advantages so that was found DRCR value of 0,6 and PCR value of <1 which was 0,5. The policies implemented by the government were on farmers' side because the effective protection coefficient (EPC) for corn was 1,2; which means, the ratio of the financial addition value to the social addition value was about 1.

## RECOMMENDATION

It was possible to expand the planting area for corn commodities to other sub-districts in Kubu Raya Regency, because the land is now narrow and limited in the research area due to land conversion and competition between other food plants or horticulture, increasing the use of certified and superior corn seeds in order to achieve maximum production targets. The government must fund the development of corn processing businesses and reduce processing technology and infrastructure to be sustainable and adequate. The government facilitates physical or economic infrastructure to facilitate the accessibility of corn production centers to the market, both input and output.

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