COMPARATIVE ANALYSIS OF LOCAL FRUIT SELLING BUSINESSES IN
THE SAENAM VILLAGE AND SALLU VILLAGE NORTH CENTRAL TIMOR

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ABSTRACT

East Nusa Tenggara Province has land that tends to be dry, with several superior local fruit commodities such as oranges, mangoes, avocados, and jackfruit. One of the local fruit-producing centers in East Nusa Tenggara is North Central Timor (TTU) Regency. Most of the fruit needs in TTU Regency are supplied from West Miomaffo District, especially Saenam Village. Saenam Village produces 222 Kg of local fruit while Sallu Village is 345 Kg, but the sales volume value of Saenam Village is higher than Sallu Village with a difference of Rp. 1,000,000. Based on these conditions, this study focuses on the comparison of local fruit farming businesses in Saenam Village and Sallu Village. The purpose of this study is to compare and analyze the sales volume, relative market share level, and business position of local fruit commodities by applying BCG analysis.

The results showed that the fruit business in Saenam Village had a total sales volume in 2018 of IDR 2,151,313, 2019 of IDR 1,915,296, and 2020 of IDR 2,175,685. Meanwhile, Sallu Village has a total sales in 2018 of Rp 1,009,821, 2019 Rp 899,584, and 2020 Rp 887,281. The market growth rate and relative market share are calculated based on the total sales volume. The results of the BCG analysis show that Saenam Village is in the star quadrant, with a market growth rate of 1.31% and a relative market share level of 2.57. Sallu Village has a market growth rate of -15.25% and a relative market share rate of 0.4. This value explains that the fruit products of Sallu Village are in the dog quadrant. The strategy that needs to be carried out by farmers in Saenam Village is to expand fruit marketing. The strategy that can be applied by farmers in Sallu Village is to replace fruit gardens with vegetable gardens in order to increase income and use land more optimally.

Keywords: Local fruit, sales volume, relative market share level, BCG, and marketing strategy
Introduction

Local fruit is a unique horticultural commodity and can only be produced in a certain area. The province of East Nusa Tenggara (NTT) has land that tends to be dry, with several superior commodities such as oranges, mangoes, avocados, and jackfruit. The uniqueness of NTT citrus fruit is that it has few seeds with a distinctive fragrance and has been certified by the Ministry of Agriculture with the number SK 124/Kpts/SR.120/D.2.7/12/2017 (Balitjestro (Balai Penelitian Tanaman Jeruk dan Buah Subtropika), 2019). Meanwhile, mango, avocado, and jackfruit grown in NTT have a denser fruit texture and a stronger taste and aroma because they grow on dry land (Alim et al., 2022). One of the local fruit-producing centers in NTT is the North Central Timor Regency (TTU).

<table>
<thead>
<tr>
<th>Types of Fruits</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avocado</td>
<td>148</td>
<td>86.3</td>
<td>592.3</td>
<td>572.8</td>
</tr>
<tr>
<td>Mango</td>
<td>5.148</td>
<td>924.8</td>
<td>766.9</td>
<td>5.021.6</td>
</tr>
<tr>
<td>Orange</td>
<td>2.153.1</td>
<td>1.267.3</td>
<td>3.020.1</td>
<td>2.758.4</td>
</tr>
<tr>
<td>Jackfruit</td>
<td>645.8</td>
<td>278.1</td>
<td>515.1</td>
<td>422.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>8.096.9</td>
<td>2.556.5</td>
<td>4.894.4</td>
<td>8.775.2</td>
</tr>
</tbody>
</table>

Table 1 Local Fruit Production in North Central Timor Regency in 2017-2020 (Tons)

Table 1 above can be concluded that local fruit production in North Central Timor Regency has fluctuated over the last 4 years where in 2017 local fruit production was 8,096.9 tons, decreased in 2018 by 2,556.5 tons, and again experienced an increase in production. in 2019 it was 4,894.4 tons and in 2020 it was 8775.2 tons.

BPS stated that local fruit production in West Miomaffo District in 2020 was 470 tons, 400 tons, 430 tons, and 224 tons, respectively. The data shows a decline in production from year to year. The main factors that affect the decline in local fruit production in West Miomaffo District are pests and diseases (Seran & Kune, 2016). The same thing was expressed by (Bay & Pakaenoni, 2021), where one of the causes of the low quality of fruit in the local market is the attack of fruit fly pests. Fruit fly attacks affect the quality and quantity of fruit. Quantity losses are caused by the reduced economic value of the fruit, while the loss of quality is when the fruit becomes rotten and there are black spots that are not suitable for consumption.

On average, fruit farmers in West Miomaffo Sub-district pay less attention to the health of fruit trees so that they are easy to attack by pests and diseases and reduce fruit production. Farmers’ lack of attention to fruit trees is caused by the low price of fruit, which ranges from Rp. 5,000 per kg to Rp. 18,000 per kg. In addition, it is suspected that a lack of marketing strategy causes the value of local fruit sales volume to be low. Therefore, there needs to be an alternative marketing strategy to increase the volume of fruit sales, which will impact the income of local fruit commodity farmers. According to (Wiedjarnarko et al., 2015), cooperating with several parties can increase income. (Pratama & Nadapdap, 2019), provides one strategy that can be done to increase sales volume, namely a market expansion strategy to create market penetration, market development, and product development.

Based on preliminary observations, in West Miomaffo District, information was obtained
that Saenam Village was the village that recorded the largest local fruit sales value out of 13 other villages. In 2018 Saenam Village sold local fruit for IDR 2,151,314 with a total fruit production of 222 Kg, while Sallu Village as a competitor had the potential to sell local fruit for IDR 1,009,822 with a total fruit production of 345 Kg (Bai et al., 2021). This condition is interesting to study further because Saenam Village can get a higher sales value than Sallu Village even though the fruit production in Saenam Village is lower than Sallu Village. The provisional assumption for this situation is that Saenam Village can market its fruit in several markets compared to Sallu Village. This study will focus on the comparison of local fruit farming businesses, namely oranges, mangoes, avocados, and jackfruits in Saenam and Sallu villages to determine sales volume, relative market share, and fruit commodity business position and to formulate alternative marketing strategies that are good so that they can be used by consumers, farmers in developing sales volume and developing local fruit markets.

RESEARCH METHODS

Research Location and Time
This research was conducted in West Miomaffo District, especially in Saenam Village and Sallu Village. This location was chosen because the two villages are local fruit producers in West Miomaffo District. Field data collection was carried out from April to June 2021, with data collected from the last 3 years, namely from 2018 to 2020.

Population and Sample
The research population was all fruit farmers in Saenam Village and Sallu Village. The total population of the study in Saenam Village was 162 farmers and Sallu Village’s 94 farmers consisted of representatives of each family of local fruit farmer groups (FFG) that produce avocado, mango, orange, and jackfruit. The sampling technique used is the Slovin formula (Patariantio, 2015), as follows:

$$n = \frac{N}{nd^2 + 1}$$

Information:
n: Number of Samples
N: Total Population
Nd^2: Percentage (set 10% with 90% confidence level)

The sample for fruit farmers in Saenam Village is 115 respondents and in Sallu Village is 76 people. The number of each sample was determined based on the Farmer’s Group Family (FGF) by proportional random sampling with the following criteria: (1) Average production of 2 to 4 tons/ha; (2) beginner and advanced farmer group classes; (3) experts and stakeholders involved in local fruit marketing. There are 6 experts and stakeholders with the criteria of respondents being experts on marketing or business actors who have been running for at least 3 years, and stakeholders are village officials or policymakers. The details for each village are, 1 village head, 1 extension worker, and 4 local fruit farmers.

Data collection
The types of data collected consist of primary data and secondary data. Primary data were collected directly through interviews using a questionnaire as a research instrument. The questionnaire used has been structured in a structured way and has been tested for validity and reliability.
Focus Group Discussion (FGD) was conducted with experts and stakeholders to find out the most important commodities in West Miomaffo District and to find out the policies that have been implemented so far. The results of the Focus Group Discussion are used as the basis for determining local fruit marketing strategies in Sallu Village and Saenam Village.

Secondary data were obtained from the literature relevant to the research topic. Data and information from the Central Statistics Agency, the Food Security Service, the North Central Timor Regional Government Work Plan (RGWP), the North Central Timor Medium Term Development Plan (MTDP), the North Central Timor Long Term Development Plan (LTDP), and the Food Crops Agriculture Service and North Central Timor Ranch.

BCG Analysis

The data analysis technique in this study uses Boston Matrix analysis Consulting Group (BCG). To find out the position of the growth rate of the local fruit market in West Miomaffo District based on market share. The BCG matrix is determined by two factors, namely as follows (Saputra et al., 2020):

a. The market growth rate is shown on the vertical axis. Measure the market growth rate as follows:

\[ MGR = \frac{VPN - VP_{N1}}{VP_{N1}} \times 100\% \]

Information:
MGR = Market Growth Rate
VPN = Last Year’s Sales Volume
VP_{N1} = Previous Year’s Sales Volume

b. Relative market share is the strength of the market share shown on the horizontal axis. Measuring relative market share as follows:

\[ RMSR = \frac{VPP_N}{VP_N} \]

Information:
RMSR = Relative Market Share Rate
VP_N = Last Year’s Sales Volume
VPP_N = Competitor’s Last Year Sales Volume

By knowing the market growth and market share, it can also be seen the position of the marketing strategy based on the BCG matrix, as in the matrix below.

![BCG Matrix](source)

The BCG matrix is a matrix that graphically describes the differences between divisions in relative market share positions and market growth rates (Maristia et al., 2020). The BCG matrix is defined as a method of evaluating a business relative to the growth rate of the business market and the organization’s share in the market (Sari & Sultan, 2019). The Boston Consulting Group matrix has levels in each quadrant, which has 4 positions, namely: Stars, Cash Cows, Question Marks, and Dogs. This matrix can also be used to place strategic products that can generate profits for the company. The Boston Consulting Group (BCG) analysis method is a method used in preparing a strategic business unit plan by classifying the company’s profit potential (Subhan & Peratiwi, 2017).
The concept of this research is in line with the research conducted by (Joubert et al., 2011), entitled “The Cash Cows, Dogs, Stars and Problem Children of the South African Agricultural Sector”. The research focuses on analyzing the growth of various agricultural sub-sectors in South Africa by comparing one sub-sector with another. The results of his research show that the average growth of the agricultural sub-sector in South Africa for 10 years is 5.64%, with details of one sub-sector being in the cash cow quadrant, eight sub-sectors in the dog quadrant, fourteen sub-sectors in the star quadrant, and twenty-one subsectors in the question mark quadrant.

RESULTS AND DISCUSSION

This study focuses on knowing the relative market share and sales volume of fruit in Saenam Village and Sallu Village. The two villages were compared based on the total sales volume of all commodities produced and also compared between each fruit to obtain results that were able to describe the state of local fruit farming.

Fruit Production Volume

On average, the volume of local fruit production in Sallu Village is higher than that of Saenam Village. The average fruit production data for each village is presented in Table 2.

In addition to citrus fruits, avocado is the second leading commodity in Saenam Village, it can be seen in Table 2, the value of avocado sales volume from year to year always increases, this is due to the number of farmers cultivating avocados so that avocado production increases and directly affect the volume of avocado sales. As for mango and jackfruit, farmers in Saenam Village do not cultivate them specifically, these two plants have been growing in their yards or fields for a long time, so the sales volume of mango and jackfruit tends to be smaller when compared to oranges and avocados.

The largest local fruit sales volume in Sallu Village was obtained in 2018 Rp. 1,009,821 and continued to decline in 2019 and 2020, which was Rp. 889,584 and Rp. 887,281, and this was due to the lack of sales made by local fruit farmers in Sallu Village. Fruit farmers in Sallu Village only sell local fruit at the Eban Market for the reason that they are afraid of losing if the fruit does not sell and they do not want to incur transportation costs to sell at Pasar Baru Kefa and Pasar Rakyat Atambua. In addition, fruit farmers in Sallu Village feel unable to compete with fruit farmers from other villages, so the volume of local fruit sales in Sallu Village is very low. The fruit farmers of Saenam

### Table 2: Average Value of Local Fruit Production Volume in Saenam and Sallu Villages in 2018-2020

<table>
<thead>
<tr>
<th>Type of Fruits</th>
<th>2018 Production (Kg)</th>
<th>2019 Production (Kg)</th>
<th>2020 Production (Kg)</th>
<th>2018 Production (Kg)</th>
<th>2019 Production (Kg)</th>
<th>2020 Production (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mango</td>
<td>56,19</td>
<td>50,68</td>
<td>62,82</td>
<td>144,44</td>
<td>134,30</td>
<td>122,18</td>
</tr>
<tr>
<td>Avocado</td>
<td>48,69</td>
<td>52,92</td>
<td>53,88</td>
<td>138,03</td>
<td>131,39</td>
<td>113,10</td>
</tr>
<tr>
<td>Orange</td>
<td>73,47</td>
<td>62,45</td>
<td>73,94</td>
<td>43,84</td>
<td>37,56</td>
<td>39,42</td>
</tr>
<tr>
<td>Jackfruit</td>
<td>43,50</td>
<td>30,62</td>
<td>29,44</td>
<td>19,45</td>
<td>16,78</td>
<td>19,21</td>
</tr>
<tr>
<td>Total</td>
<td>222.05</td>
<td>196.67</td>
<td>220.08</td>
<td>345.76</td>
<td>320.03</td>
<td>293.91</td>
</tr>
</tbody>
</table>

Source: Processed Primer Data (2021)
Village dare to sell local fruit outside the Eban Market, namely Pasar Baru Kefa and Pasar Rakyat Atambua. Despite having lower production than Sallu Village, local fruit farmers in Saenam Village have a higher average volume of sales because the average price per kg of local fruit in Eban Market is only Rp. 1,300 for mangoes, Rp. 1,600 for avocados, Rp. 12,500, and jackfruit Rp. 3,700. The price of fruit in Eban Market is much lower than the average price of fruit in Pasar Baru Kefa and Pasar Rakyat Atambua, for mangoes the average price per kg is Rp. 4,000, avocado is Rp. 9,000, oranges are Rp. 18,500, and jackfruit is Rp. 4,000.

Citing the results of research conducted by (Ismini, 2010) and (Winardi, 2014) states that the number of marketing channels affects the income earned. While research by (Kasdi, 2016; Liviu & Adina Claudia, 2011; Setiawati et al., 2020) argues that the law of supply and demand applies in the market, namely if the number of goods produced cannot be sold and few are in need, it will not increase income. The results of the research above are under the conditions experienced by Saenam Village and Sallu Village, namely, Saenam Village produces less fruit than Sallu Village, but can obtain a larger sales volume because it can sell fruit in three different markets, while Sallu Village is only able to sell in three different markets, one market so that it has a low sales volume.

**BCG analysis of Saenam village and Sallu village**

The BCG matrix for Saenam Village and Sallu Village has a median value of 1% market growth rate (MGR) and a median relative market share rate (RMSR) of 1. The upper limit value, middle value, and lowest value are determined based on the highest and lowest values. obtained from the results of TPP and TPR calculations (Dewi et al., 2016; Frida et al., 2018; Laosutsan et al., 2017; Rahayuningsih et al., 2013). Based on the results of the BCG analysis in Figure 2, Saenam Village is in the star quadrant with a market growth rate of 1.31% and a relative market share level of 2.57, which means that overall fruit products in Saenam village have high market growth and market share. Sallu Village has a market growth rate of -15.25% and a relative market share rate of 0.4. This value explains that the fruit products of Sallu Village are in the dog quadrant, which means...
that the market growth rate and market share are relatively low.

Based on the figure above, the strategy that can be done by Saenam Village to increase sales volume is to expand the market to Kupang Regency and Kupang City. In addition, fruit farmers are expected to make processed products from these fruits to increase the selling value and extend the shelf life of local fruit.

The suggested strategy for Sallu Village is to replace fruit orchards with vegetable gardens so that the income earned by farmers increases and land use is more optimal, or another strategy is to work together with Saenam Village to jointly market fruit outside the Eban Market so that the market share of fruit commodities in Sallu Village increasingly widespread.

These two strategies are in line with the results of research conducted by (Wardani et al., 2021), which states that in agribusiness, the quality of production in plantation commodities must be considered in short-term development strategies for leading plantation commodities by sustainably maintaining potential commodities and prospects optimally through: increasing production, productivity, and quality strengthening partnerships, expanding markets, and utilizing global market opportunities, as well as establishing production center areas.

**BCG Analysis of Each Fruit Commodity**

After knowing the market growth rate and relative market share of the total local fruit sales of each village, this study continues the BCG analysis for the sales of each local fruit commodity, the aim is to find out which local fruit commodity is the most superior in terms of market growth rate and share. relative market, then a sales strategy is formulated. The BCG matrix of each fruit commodity can be seen in Figure 3.

The BCG matrix above shows that there are three local fruit commodities in Saenam Village which are in the star quadrant, namely avocado, mango, and orange, while jackfruit is in the cash cow quadrant. If you look at the sales volume of mangoes, which

![Figure 3. BCG Matrix of Each Local Fruit Commodity of Saenam Village and Sallu Village](image-url)
are not that big when compared to avocados and oranges, but have a much higher market growth and relative market share when compared to jackfruit with a TPP value of 7.08% and a TPR of 1.45, while the TPP value is 7.08%. Jackfruit has a value of -16.73% and a TPR of 1.72.

Mango fruit in Saenam Village is recommended to penetrate the market and market development to generate profits if fruit farmers are serious about cultivating and rejuvenating mango trees that have passed their productive period. This strategy needs to be carried out because the market growth rate and relative market share are positive. While jackfruit has a negative market growth rate but a positive relative market share value. A suitable strategy for jackfruit is product development by processing jackfruit to increase the market growth.

The strategy proposed by (Wardani & Solikah, 2019), which consists of market penetration, market development, and product development, is following Saenam Village. Market penetration focuses on selling existing products to increase the market, then market development has the aim of selling products in new markets, and product development serves to introduce products to existing markets.

All local fruit commodities in Sallu Village are in the dog quadrant in the BCG Matrix above, which means they have a low market growth rate and relatively low market share. This shows that the local fruit of Sallu Village does not have many enthusiasts and is less competitive, because the fruit farmers in Sallu Village only do marketing in one place, namely the Eban Market. The marketing reach of local fruit farmers in Sallu Village is very limited. If the locally produced fruit does not sell well then as an alternative the local fruit is used as animal feed.

The strategy that needs to be carried out by fruit farmers in Sallu Village is by expanding or expanding the market and also processing unsold fruits into products that have added value such as snacks or drinks. However, if fruit cultivation is only considered a side business, it is better to replace fruit plants with vegetable crops. Vegetable crops are the main commodity cultivated by the majority of farmers in Sallu Village, so they can optimize land use and are also able to increase farmers’ income.

Research conducted by (Wardani et al., 2021) resulted in a strategy for determining commodities in terms of product value and determining commodities in terms of market development objectives. This strategy is relevant to the condition of fruit commodities in Sallu Village which needs to be reviewed to increase farmers’ income and make efficient use of land.

CONCLUSION

Saenam Village has a high market growth rate and relative market share, this is evidenced by the position of Saenam Village in the star quadrant of the BCG Matrix. Sallu village is in the dog quadrant which indicates that the market growth rate and market share are relatively low. The strategy that can be done by Saenam Village is to increase sales volume by expanding the market. In addition, local fruit farmers are expected to be able to make processed products from fruits to increase the selling value and extend the shelf life of fruit. The implementation of the strategy for Sallu
Village is to replace fruit gardens with vegetable gardens that can increase farmers’ income and optimize land use, or another strategy is to work together with Saenam Village to jointly market local fruit outside Eban Market so that the market share of Sallu Village’s local fruit is getting bigger.

Based on the results of the analysis, it is known that there are three local fruits in Saenam village which are in the star quadrant, namely avocado, mango, and orange, while jackfruit is in the cash cow quadrant. Mango fruit in Saenam village can generate profits if fruit farmers are serious about cultivating them, and rejuvenating mango trees that have passed their productive period because the market growth rate and relative market share are positive. While jackfruit has a negative market growth rate but has a positive relative market share value the appropriate strategy for jackfruit is to process the product to increase its market growth.

All local fruit commodities in Sallu Village are in the dog quadrant in the BCG Matrix, which means they have a low market growth rate and relative market share. The strategy that needs to be carried out by local fruit farmers in Sallu Village is to expand or expand the market and also process unsold fruits into products that have added value such as snacks or drinks.

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