



FEASIBILITY ANALYSIS OF THE NUTMEG JAM FROM IKM SF'BARIK IN DESA BEONG KECAMATAN SIAU TENGAH KABUPATEN KEPULAUAN SITARO

ANALISIS KELAYAKAN JAM PALA DARI IKM SF'BARIK DI DESA BEONG KECAMATAN SIAU TENGAH KABUPATEN KEPULAUAN SITARO

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Abstract

This study aims to analyze the financial feasibility of the SF'Barik Nutmeg Jam IKM business in Beong Village, Siau Tengah Subdistrict, Sitaro Regency. The research method used was a case study with a quantitative descriptive approach. Data were collected through questionnaires administered to 40 respondents. The results of the study Break-Even Point (BEP), show that the total production cost for the agroindustry is Rp805,250 and total revenue of Rp1,400,000, resulting in an operating profit of Rp594,750. An R/C Ratio of 1.74 indicates that the business is viable. The BEP analysis shows that the break-even point is at 23.01 units, rounded to 24 units, with a BEP revenue of Rp805,350. Descriptively, the business is still managed in a simple, family-based manner, with marketing conducted through word-of-mouth promotion and social media. Based on the research findings, the SF'Barik Nutmeg Jam IKM is viable to operate and develop because it is capable of generating profits and has potential for the development of agro-industry based on local commodities.

Keywords : IKM SF'Barik, Nutmeg Jam, Agroindustry, Financial Feasibility, Local Commodities.

Abstrak

Penelitian ini bertujuan untuk menganalisis kelayakan finansial usaha IKM Selai Pala SF'Barik di Desa Beong, Kecamatan Siau Tengah, Kabupaten Sitaro. Metode penelitian yang digunakan adalah studi kasus dengan pendekatan deskriptif kuantitatif. Data dikumpulkan melalui kuesioner yang diberikan kepada 40 responden. Hasil analisis menunjukkan bahwa total biaya produksi agroindustri ini adalah Rp805.250 dengan total pendapatan sebesar Rp1.400.000, sehingga menghasilkan laba operasional sebesar Rp594.750. Nilai R/C Ratio sebesar 1,74 mengindikasikan bahwa usaha tersebut layak dijalankan. Analisis Break-Even Point (BEP) menunjukkan titik impas berada pada angka 23,01



unit (dibulatkan menjadi 24 unit) dengan nilai pendapatan BEP sebesar Rp805.350. Secara deskriptif, usaha ini masih dikelola secara sederhana berbasis keluarga, dengan pemasaran yang dilakukan melalui promosi dari mulut ke mulut dan media sosial. Berdasarkan temuan penelitian, IKM Selai Pala SF'Barik layak untuk dijalankan dan dikembangkan karena mampu menghasilkan keuntungan serta memiliki potensi bagi pengembangan agroindustri berbasis komoditas lokal.

Kata Kunci : IKM SF'Barik, Selai Pala, Agroindustri, Kelayakan Finansial, Komoditas Lokal.

1. INTRODUCTION

The agricultural sector plays a strategic role in both the national and regional economies, not only as a provider of food but also as the primary source of livelihood for rural communities and a supplier of raw materials for various processing industries (Nugraha et al., 2024). One of the plantation commodities with great potential for development through agroindustry is nutmeg (*Myristica fragrans*), a high-value spice widely used in the food, beverage, coIKMtics, and pharmaceutical industries. Indonesia is known as one of the world's leading nutmeg producers, playing a significant role in the international spice trade (UNIDO, 2023).

In Siau Tagulandang Biaro (SITARO) Regency, North Sulawesi Province, nutmeg production reached approximately 3,126.85 metric tons in 2023. Siau Tengah District alone contributed about 242 metric tons to this total production (SITARO Regency BPS, 2025). This abundance of raw materials opens up significant opportunities to develop nutmeg-based agroindustry, including the processing of nutmeg pulp into value-added products such as nutmeg jam.

The SF'Barik IKM, located in Beong Village, Siau Tengah Subdistrict, is one of the businesses utilizing local nutmeg as a raw material for jam production. The existence of this business not only contributes to the utilization of local resources but also creates jobs and increases the income of the local community. However, the development of IKM-scale agro-industrial businesses often faces challenges related to production cost efficiency and profit margins. Therefore, a comprehensive business feasibility analysis is needed using a financial approach based on the R/C Ratio and Break-Even Point (BEP) indicators to assess whether the SF'Barik nutmeg jam business is viable to operate and expand (Priyanto et al., 2025).

Studies on the feasibility of IKM-scale nutmeg jam agroindustry in Sitaro Regency remain very limited. This study aims to analyze the feasibility of the SF'Barik Nutmeg Jam IKM business from a financial perspective, determine its viability based on the R/C Ratio and BEP values, and describe the business's characteristics, management, and marketing.

THEORETICAL FOUNDATION

Nutmeg as a Commodity and in Agroindustry

Nutmeg (*Myristica fragrans*) is a high-value flagship commodity that can be fully utilized, from the seed and aril to the fruit pulp. Nutmeg pulp has great potential to be processed into various value-added food products such as candied fruit, syrup, and jam (Sembiring et al., 2023). Agroindustry is the integration of agricultural and industrial activities aimed at processing agricultural products into goods with higher value-added, longer shelf life, and the ability to reach broader markets (Priyanto et al., 2025). The development of nutmeg-based agroindustry can drive the growth of IKMs in nutmeg-producing regions such as Sitaro Regency (Yulianti & Prihtanti, 2020).

Nutmeg Jam

Nutmeg jam is a diversified product made from nutmeg pulp that possesses a distinctive flavor and high functional value. Nutmeg contains bioactive compounds such as essential oils, phenolics, and flavonoids, which act as antioxidants and antibacterial agents (Al-Rawi et al., 2024; Taihuttu & Agustin, 2023). The process of making nutmeg jam includes cleaning, boiling to reduce bitterness, pureeing, and cooking with sugar until a thick consistency is achieved. In addition to increasing the economic value of nutmeg, the development of nutmeg jam can open up new business opportunities for communities in nutmeg-producing regions (Anwar et al., 2024; Dian G. Purba Tambak et al., 2024;



Pinaria et al, 2026).

IKM Feasibility Analysis

Micro, Small, and Medium Enterprises (IKMs) play a role in processing local raw materials into value-added products, thereby increasing the income of farmers and business operators (Herissuparman et al., 2024). Business feasibility analysis includes calculations of total costs (TC), total revenue (TR), operating profit, the R/C ratio, and the break-even point (BEP). Total costs consist of the sum of fixed and variable costs, while total revenue is calculated by multiplying the quantity produced by the selling price. An R/C ratio greater than 1 indicates that the business is economically viable (Setiawan & Arifin, 2024). The BEP is the break-even point that indicates the minimum number of products that must be sold so that the business does not incur a loss (Saleh, 2020).

2. RESEARCH METHOD

This study employed a case study method with a quantitative descriptive approach at the SF'Barik IKM in Beong Village, Siau Tengah Subdistrict, SITARO Regency. The location was selected through purposive sampling because this business is the only IKM in the area that processes nutmeg into jam. The research was conducted from March to April 2026.

Data were collected through: (1) direct observation of production activities; (2) interviews with the business owner using a structured questionnaire; (3) documentation of production, cost, and sales data; and (4) distribution of questionnaires to 40 consumer respondents selected through purposive sampling. Secondary data were obtained from scientific journals, Central Statistics Agency (BPS) data, and relevant agencies.

Data analysis was conducted using descriptive and financial methods. The financial analysis included calculations of total costs ($TC = TFC + TVC$), total revenue ($TR = P \times Q$), operating profit ($\pi = TR - TC$), the revenue-to-cost ratio (TR/TC), the break-even point in units (TC/P), and the break-even point in price (TC/Q). Descriptive analysis was used to describe the characteristics, management, and marketing of the business.

3. RESULT AND DISCUSSION

Overview of the Location and SF'Barik IKM

Beong Village is located in Siau Tengah Subdistrict, SITARO Regency, at an elevation of Located approximately 200 meters above sea level, with an area of approximately 2.83 km² and a tropical climate that supports the growth of nutmeg trees. The village has a population of 547 (BPS, 2023). The SF'Barik IKM is owned by Mr. Hanris Barik and was established in 2014. This business processes nutmeg pulp sourced from local farmers into nutmeg jam, which is sold directly to the surrounding community and through local distribution networks. The production process uses simple equipment such as stoves, pots, and blenders, with a family-based workforce.

Financial Analysis of Production Costs

The production costs of the Nutmeg Jam from IKM SF'Barik consist of fixed and variable costs. Total fixed costs amount to Rp352,500, which come from depreciation of production equipment, taxes, and electricity. A breakdown of fixed costs is presented in Table 1

Table 1. Fixed Costs of the IKM SF'Barik Nutmeg Jam

<i>No.</i>	<i>Fixed Cost Component</i>	<i>Amount (Rp)</i>
1	Knife	3,750
2	Fruit peeler	3,750
3	Baking pan	12,000
4	Pots	11,250
5	Spatula	750
6	Blender	48,750
7	Strainer	2,250
8	Scales	15,000



9	Frying pans	22,500
10	Mixing tool	3,750
11	Stove	18,750
12	Tax	160,000
13	Electricity	50,000
	<i>Total Fixed Costs (TFC)</i>	<i>Rp352,500</i>

Table 2. Variable Costs of the IKM SF'Barik Nutmeg Jam

<i>No.</i>	<i>Variable Cost Component</i>	<i>Amount (Rp)</i>
1	3 kg of nutmeg pulp	5,000
2	White sugar 3 kg	60,000
3	Brown sugar 750 g	18,750
4	Cinnamon 50 g	5,000
5	Labor: 1 person/day	150,000
6	Fuel: 2 liters	6,000
7	40 bottles	208,000
	<i>Total Variable Cost (TVC)</i>	<i>Rp452,750</i>

Total variable costs amount to Rp452,750, which include raw materials, labor, fuel, and packaging. A breakdown of variable costs is presented in Table 2. Thus, the total production cost (TC) is: $TC = Rp352,500 + Rp452,750 = Rp805,250$. This cost structure shows that variable costs (56.2%) account for a larger proportion than fixed costs (43.8%), indicating that the business is highly dependent on the use of raw materials and labor. Similar conditions have also been observed in other small-scale agro-industries (Ulfa et al., 2022).

Business Revenue

Total revenue is calculated based on a production volume of 40 units per production run at a selling price of Rp35,000 per unit, resulting in: $TR = 40 \times Rp35,000 = Rp1,400,000$. This revenue figure reflects that nutmeg jam has a fairly good selling price in the local market (Hasanah et al., 2023).

Operating Profit

Business profit is calculated as follows: $\pi = TR - TC = Rp1,400,000 - Rp805,250 = Rp594,750$. A positive profit value ($\pi > 0$) indicates that the SF'Barik Nutmeg Jam business is profitable in every production cycle. This profit demonstrates that the business is able to cover all production costs and provide additional income for the business owner (Wahyudi & Mulyono, 2024).

R/C Ratio Analysis

The R/C Ratio is calculated as follows: $R/C = TR/TC = Rp1,400,000/Rp805,250 \approx 1.74$. An R/C value > 1 indicates that this business is viable to operate, meaning that every Rp1 of cost incurred generates revenue of Rp1.74. This result aligns with the research by Setiawan & Arifin (2024), which states that an R/C Ratio greater than 1 is an indicator of efficiency and the viability of small-scale agro-industrial businesses.

Break-Even Point (BEP) Analysis

A BEP analysis was conducted to determine the business's break-even point. The BEP in units is calculated as follows: $BEP \text{ (units)} = TC/P = Rp805,250/Rp35,000 = 23.01$ units (rounded to 24 units). With an actual production of 40 units, the business has far exceeded the break-even point and is therefore operating profitably. The revenue break-even point is: $BEP \text{ (Rp)} = 23.01 \times Rp35,000 = Rp805,350$. Details of the BEP analysis at various production levels are presented in Table 3.

Table 3. Break-Even Point Analysis for the IKM SF'Barik Nutmeg Jam

<i>Production (Units)</i>	<i>Price (Rp)</i>	<i>Revenue (TR)</i>	<i>Total Costs (TC)</i>	<i>Profit/Loss (Rp)</i>
20	35,000	700,000	805,250	-105,250
22	35,000	770,000	805,250	-35,250



23 (BEP)	35,000	805,000	805,250	-250
24	35,000	840,000	805,250	+34,750
25	35,000	875,000	805,250	+69,750
30	35,000	1,050,000	805,250	+244,750
40	35,000	1,400,000	805,250	+594,750

Based on Table 3, at a production level of 23 units, there is still a loss of Rp250, whereas at a production level of 24 units, the business begins to turn a profit of Rp34,750. Thus, the business's margin of safety is quite good, and the risk of loss is relatively low. This is consistent with the findings of Manuho et al. (2021) that BEP analysis is an important tool in determining the minimum production threshold for agroindustrial businesses.

Descriptive Analysis of Consumer Characteristics

Based on the results of a questionnaire administered to 40 respondents, the majority of consumers (50%) are over 40 years old, followed by the 31–40 age group (30%), the 20–30 age group (15%), and those under 20 years old (5%). The predominance of adult consumers indicates that nutmeg jam is more popular among those with economic means and the ability to make their own purchasing decisions. In terms of occupation, 72.5% of respondents were civil servants (ASN/PNS/PPPK), suggesting a stable market with strong purchasing power (Guy et al., 2023).

Business Management

IKM SF'Barik's is still managed in a simple, family-based manner. Production is carried out routinely under the supervision of the business owner. Financial records are maintained manually and have not yet been digitized. Raw materials are sourced directly from local farmers around Beong Village, ensuring a relatively stable supply. These simple management conditions are a common characteristic of micro-scale agro-industrial IKMs that require guidance in governance aspects (Kusnandar et al., 2023).

Marketing

Marketing of SF'Barik nutmeg jam is conducted through two main channels: word-of-mouth promotion and social media. Distribution is carried out directly to consumers in the Siau Tengah area. There are currently no formal marketing strategies in place, such as cost-based pricing, branding, or penetration into markets outside the region. Developing a more structured marketing mix strategy (product, price, place, promotion) could expand market reach and increase sales of the nutmeg jam (Wahyudi & Mulyono, 2024; Suryaningrum & Lestari, 2025).

4. CONCLUSION

Based on the research findings, it can be concluded that: (1) The IKM SF'Barik Nutmeg Jam is financially viable, with total production costs of Rp805,250, total revenue of Rp1,400,000, and operating profit of Rp594,750 per production cycle; (2) An R/C Ratio of 1.74 (> 1) indicates good business efficiency and viability, while a BEP of 23.01 units shows that with an actual production of 40 units, the business has far exceeded the break-even point; (3) Descriptively, the business is still managed in a simple, family-based manner with marketing through word of mouth and social media, so there is still significant room for development in the areas of management, production technology, and marketing.

Recommendations for IKM owners include implementing digital financial record-keeping, expanding marketing channels through online marketplaces and local specialty souvenirs, and increasing production capacity to maximize profits. For future researchers, it is recommended to examine aspects of value addition, supply chain analysis, and long-term business development strategies.

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