



Feasibility study of the fermented paste processing industry in the coastal area of Karawang Regency, West Java, Indonesia

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Abstract. The coastal area of Karawang Regency has tremendous potential in the fisheries sector, including fermented paste processing. Hence, efforts must be made to develop the fermented paste processing industry to improve the standard of living of coastal communities, especially in Ciparagejaya village, Tempuran Subdistrict. However, efforts to develop the industry must consider various aspects, including financial business feasibility. This research aims to analyze the financial feasibility of businesses in this village's fermented paste processing industry. Hopefully, this research will provide benefits as a scientific basis for policy-making by the Karawang Regency government to develop micro, small, and medium enterprises, including the fermented paste processing industry. This research was conducted from September 2023 to February 2024. Secondary data comes from searches of related literature and Statistics Indonesia. Primary data comes from observations and in-depth interviews with several business actors in the fermented paste processing industry in the village. The method for determining respondents is non-probability sampling, based on judgment and convenience sampling. The research results indicate that this industry can develop according to the financial business feasibility indicators, such as net present value, internal rate of return, net benefit-cost ratio, and payback period.

Key Words: coastal MSMEs, descriptive statistics, local wisdom, Terasi.

Introduction. The coastal area of Karawang Regency is a region in the northern West Java Province, Indonesia, rich in fish resources (Istrianto et al 2021; Nugraha et al 2021). The community utilizes fish resources in line with the existence of industries that process fishery products, including the Terasi processing industry. Terasi is a fermented paste Indonesian people use for food seasoning, especially as an ingredient in chili sauce (Ambarita et al 2019; Amalia et al 2023, 2024). The fermented paste processing industry in the coastal area of Karawang Regency has long been carried out by the community, especially in rural areas, as a livelihood.

There are several reasons the fermented paste processing industry in the region still survives their business. Firstly, the raw fish materials available throughout the year are supplied by local fishermen, generally the heads of the fermented paste processors' families. Secondly, the fermented paste processors have had special skills in producing it for generations to produce reasonably good fermented paste. Thirdly, the fermented paste produced has a specific market segmentation.

Hence, the industry still has bright prospects for development. However, efforts to develop the industry must consider several aspects, including business feasibility from a financial aspect. Business feasibility research from this aspect can be initial information for the government and other stakeholders in developing the fermented paste processing industry, especially in the coastal areas of Karawang Regency.

According to literature tracking, there has yet to be any research regarding the feasibility of business in the fermented paste processing industry in Karawang Regency. Business feasibility research in this industry has been carried out in several other regions in Indonesia, such as Indramayu Regency (Putri & Sungkawa 2021), Pasuruan Regency

(Musthofa & Ainiyah 2018), Sumenep Regency (Fatmawati et al 2020), Bombana Regency (Faksi et al 2018), Berau Regency (Syafriil et al 2022) and Bontang Municipality (Syafriil & Fidhiani 2020). This research seeks to analyze the business feasibility of financial aspects of the fermented paste processing industry in Ciparagejaya village, Tempuran Subdistrict, Karawang Regency.

Material and Method

General description of the research location. This research was held for six months, from September 2023 to February 2024. The research location was in Ciparagejaya village, Tempuran Subdistrict, Karawang Regency. The village's location is quite remote; it is 10.50 km from the capital of Tempuran Subdistrict and 37.50 km from the capital of Karawang Regency. Astronomically, this village is located at coordinates 6.159356° South latitude and 107.495574° East longitude. The village has an area of 4.80 km², with topography 28 meters above sea level and a coastline of 2.50 km (Fauzie 2017). In addition, the population of this village was 5,562 people in 2022 (BPS 2023).

Data collection. Secondary data was employed to obtain an initial description of the research location. Secondary data sources come from searches of related literature and Statistics Indonesia. Primary data is the central data utilized in this research. This data arrives from observations and in-depth interviews with several business actors in the fermented paste processing industry in the village, especially in two prominent locations. Firstly, the fermented paste processing industry of Mina Laut belongs to Mr. Mulyana, and secondly, Ms. Caswiri owns the industry. Besides, the method for determining research locations and key informants is non-probability sampling based on convenience and judgment sampling.

Analysis. The financial feasibility analysis in the fermented paste processing industry employs discounted investment criteria analysis, according to the formulation of Kadariah (1986) as follows:

Net present value (NPV). It is the difference between the present value of benefits and the present value of costs. If $NPV > 0$, then the fermented paste processing business is feasible. On the other hand, if the $NPV < 0$, then the fermented paste processing business is not feasible. The NPV calculation formula is explained as follows:

$$NPV = \sum_{t=0}^n \frac{B_t - C_t}{(1+i)^t}$$

where: NPV = net present value;
 B_t = t-th year benefit;
 C_t = t-th year costs;
 n = project life (years);
 t = year;
 i = discount rate.

Internal rate of return (IRR). It is an interest rate that indicates the NPV is equal to the total investment costs of the project. If $IRR < \text{social opportunity cost of capital (SOCC)}$, it indicates the business or project is not financially feasible. Besides, if $IRR = \text{SOCC}$, the business or project is at a break even point. If $IRR > \text{SOCC}$, it shows that the business or project is financially feasible. The IRR calculation formula is presented as follows:

$$IRR = i_1 + \left[\frac{NPV_1}{NPV_1 - NPV_2} \right] (i_2 - i_1)$$

where: IRR = internal rate of return;
 i_1 = discount rate that produces positive NPV;
 i_2 = discount rate that produces negative NPV;
 NPV_1 = net present value is positive;
 NPV_2 = net present value is negative.

Net benefit-cost ratio (net B/C). It is the comparison number between the total net present value of net profits and the present value of net costs. If net B/C > 1, then the fermented paste processing business is worthy of development. If net B/C < 1, then the fermented paste processing business is not feasible to develop. The net B/C calculation formula is shown as follows:

$$Net\ B/C = \frac{\sum_{t=0}^n \frac{B_t - C_t}{(1+i)^t}}{-\sum_{t=0}^n \frac{B_t - C_t}{(1+i)^t}}$$

where: Net B/C = net benefit-cost ratio;

B_t = t-th year benefit;

C_t = t-th year costs;

n = project life (years);

t = year;

i = discount rate.

Payback period (PP). It is the number of periods (years) required to return the initial investment costs with a specific rate of return. The calculation is based on cash flow estimated annually and according to the salvage value. If the PP value > project life, then the project is not feasible to implement, and vice versa, the project is feasible to implement. The PP calculation formula is displayed as follows:

$$PP = t_2 - \left[\frac{NPV_2(t_2 - t_1)}{NPV_2 - NPV_1} \right]$$

where: PP = payback period;

NPV_1 = negative cumulative NPV value;

NPV_2 = positive cumulative NPV value;

t_1 = years of life of the project that has a negative cumulative NPV;

t_2 = years of life of the project that has a positive cumulative NPV.

The basic assumptions. It is utilized to analyze the financial feasibility of the fermented paste processing industry and its subsequent management as follows:

- the industry is a privately owned business; its life has been established for 14 years since 2009;

- the industry's funding source comes from bank loans of IDR 10,000,000. The loan is spent in installments for three years, and it spent constantly annual interest cost at the interest rate of 9.05 percent per year. The loan interest rate follows the Bank Indonesia data of the working capital loan interest rate in October 2023. Calculating the interest costs of the loan is based on the Capital Recovery Factor formula:

$$A = P \frac{i(1+i)^n}{(1+i)^n - 1}$$

where: A = installment amount per year;

P = loan value;

i = interest rate;

n = loan duration (year).

- the input prices used in the calculation are based on price data during research. Meanwhile, the output price set to calculate revenue rises by IDR 1,000 every four years;

- the industry's revenue in the first year is assumed to be 50% of the second year because the business can still not produce and market products optimally (an occasion that usually occurs in the early daytimes of the business). Besides, this assumption is also based on the time needed to purchase land, build factory construction, and prepare machines and other production equipment, which takes six months;

- the increase in the industry's revenue is accepted from assumed data;

- the revenue is obtained from product sales, loans, and salvage value;

- Mr. Mulyana's fermented paste processing industry produces shrimp paste at IDR 15,000 per kilogram and fish paste at IDR 10,000 per kilogram. Meanwhile, Ms. Caswiri's industry offers fermented paste at IDR 5,000 per pack;
- the industry's costs are investment, operational, tax, and loan costs. Initial year spend investment costs, while reinvestment costs are issued to replace the equipment that has reached the end of its economic life;
- investment costs are considered constant over the life of the business. Meanwhile, operational costs rose by 3%, following the average national inflation target;
- the asset and equipment's salvage value is assumed to be exhausted at the end of its economic life. The salvage value is only estimated from Mr. Mulyana's industry;
- corporate income tax is 0.5 percent, in line with Government Regulation Number 23 of 2018 concerning income tax on income from businesses received or obtained by taxpayers that have certain gross circulation;
- depreciation cost is calculated using the straight-line method, namely:

$$D = \frac{PV - SV}{EL}$$

where: D = depreciation cost;
 PV = purchase value;
 SV = salvage value;
 EL = economic life (year).

Results and Discussion

The industry profile. Coastal communities of Karawang Regency have long been involved in the fermented paste processing industry, including the community of Ciparagejaya village, Tempuran Subdistrict. There are approximately ten entrepreneurs involved in fermented paste processing in the village. They process fermented paste individually and are not part of a joint group business. One is Mr. Mulyana's industry, established for 14 years since 2009, with the business name "Mina Laut". This type of business is an individual business. This industry employs as many as ten workers, with a simple organizational structure consisting of business owners, warehouse heads, and employees. Apart from salted fish, this industry produces fermented paste from Rebon shrimp (*Acetes sp.*) and Petek fish (*Leiognathus daura*).

The sales system of the industrial product supplies semi-finished fermented paste to large factories and advanced processors, both within and outside the local area, to be processed into finished fermented paste for consumption on the market. One is supplied to a local continuation processor by Ms. Caswiri. Meanwhile, the products are sent outside the region, among others, to the Jakarta area and Pati Regency (Central Java Province). The selling price of Petek fish paste is IDR 10,000 per kilogram, and Rebon shrimp paste is IDR 15,000 per kilogram.

One of the main reasons for the existence of this industry is that demand for these products is rarely quiet. According to economics theory, this product has the price elasticity of demand that is almost perfectly inelastic. It means that whatever the product's price, people will still purchase the product according to the quantity needed. Meanwhile, what hampers this business is mainly seasonal issues that affect the supply of raw fish materials, especially the availability of Rebon shrimp and Petek fish. The raw material for Rebon shrimp is widely available during the western monsoon, which lasts from January to May each year. Additionally, the raw material for Petek fish is available throughout the year.

The stages of the fermented paste processing cycle in Mr. Mulyana's industry of Mina Laut are as follows:

1. the raw materials for fermented paste, Rebon shrimp, and Petek fish are obtained from local fishermen;
2. the raw material of Rebon shrimp is prepared for drying. At the same time, Petek fish is soaked in salt water for one night and prepared for drying the next day. The raw materials are dried in the sun for half a day before grinding (Figure 1);



Figure 1. The process of drying raw materials for Petek fish (*Leiognathus daura*).

3. the relatively dry raw materials are mixed with salt through a mill process in the milling position;

4. the grinding is repeated with two drying times and three more grinding times (Figure 2);



Figure 2. Repeated process of milling for fermented paste.

5. the semi-finished fermented paste will be shipped to the factory or further processors.

Furthermore, the stages of the fermented paste processing cycle in subsequent processing by Ms. Caswiri's industry are as follows:

1. the semi-finished fermented paste is obtained from Mr. Mulyana's industry and is dry for half a day;

2. the semi-finished fermented paste is mixed with sugar, monosodium glutamate (MSG), and salt and then carried to the milling service;

3. after the grinding process, the fermented paste is ready to be molded into a circle weighing 2 ounces and then wrapped with packaging paper;

4. finally, the packaged fermented paste is ready to be marketed (Figure 3);



Figure 3. The fermented paste product by Ms. Caswiri's industry.

5. the sellers from the local market in the village pick up the products directly from Ms. Caswiri's industry. Some products are shipped to meet orders from other areas in Karawang Regency and from outside, such as Purwakarta Regency.

Analysis of the business feasibility for the industry based on financial aspects.

Discussion of the analysis employs investment feasibility criteria, which include NPV, net B/C, IRR, and PP. The components analyzed are based on cash flow, including inflow, outflow, and income statement analysis.

Cash inflow. Each revenue of the business is included as the cash inflow, both at the beginning and during the running of the business. The components of business revenue include total production value and salvage value. Based on the assumptions, the total revenue value of the industry per year (both owned by Mr. Mulyana and Ms. Caswiri) is obtained from the total production volume per year multiplied by the price per unit of the product (Table 1, Table 2, and Table 3). Furthermore, the production volume in the industry's first year of operation was only half, according to assumptions concerning the factory's construction time and the limited market at the start of the business.

Table 1
Details of business revenue from the Petek fish paste per year in Mr. Mulyana's industry of Mina Laut

Year	Production volume (kg)	Selling price per kg (IDR)	Revenue value (IDR)
1	30,000	10,000	300,000,000
2	60,000	10,000	600,000,000
3	60,000	10,000	600,000,000
4	60,000	10,000	600,000,000
5	60,000	11,000	660,000,000
6	60,000	11,000	660,000,000
7	60,000	11,000	660,000,000
8	60,000	11,000	660,000,000
9	60,000	12,000	720,000,000
10	60,000	12,000	720,000,000
11	60,000	12,000	720,000,000
12	60,000	12,000	720,000,000
13	60,000	13,000	780,000,000
14	60,000	13,000	780,000,000

Table 2
Details of business revenue from the Rebon shrimp paste per year in Mr. Mulyana's industry of Mina Laut

Year	Production volume (kg)	Selling price per kg (IDR)	Revenue value (IDR)
1	12,000	15,000	180,000,000
2	24,000	15,000	360,000,000
3	24,000	15,000	360,000,000
4	24,000	15,000	360,000,000
5	24,000	16,000	384,000,000
6	24,000	16,000	384,000,000
7	24,000	16,000	384,000,000
8	24,000	16,000	384,000,000
9	24,000	17,000	408,000,000
10	24,000	17,000	408,000,000
11	24,000	17,000	408,000,000
12	24,000	17,000	408,000,000
13	24,000	18,000	432,000,000
14	24,000	18,000	432,000,000

Based on Table 1 and Table 2, the total production volume of the fermented paste product delivered by Mr. Mulyana's industry of Mina Laut is 84 tons per year, each with 60 tons of Petek fish paste and 24 tons of Rebon shrimp paste. In addition, the annual

total income value reaches between IDR 960 million and more than IDR 1.2 billion. The annual revenue from selling Petek fish paste reaches between IDR 600 million and IDR 780 million, while Rebon shrimp paste is between IDR 360 million and IDR 432 million. Table 3 explains that the total production volume of the fermented paste product made by Ms. Caswiri's industry is 33.6 tons, with annual revenues ranging from IDR 168 million to more than IDR 268 million.

Table 3

Details of business revenue from the fermented paste per year in Ms. Caswiri's industry

<i>Year</i>	<i>Production volume (pack)</i>	<i>Selling price per pack (IDR)</i>	<i>Revenue value per year (IDR)</i>
1	16,800	5,000	84,000,000
2	33,600	5,000	168,000,000
3	33,600	5,000	168,000,000
4	33,600	5,000	168,000,000
5	33,600	6,000	201,600,000
6	33,600	6,000	201,600,000
7	33,600	6,000	201,600,000
8	33,600	6,000	201,600,000
9	33,600	7,000	235,200,000
10	33,600	7,000	235,200,000
11	33,600	7,000	235,200,000
12	33,600	7,000	235,200,000
13	33,600	8,000	268,800,000
14	33,600	8,000	268,800,000

Apart from sales revenue, the industry's cash inflow comes from the salvage value of investments obtained at the end of the business's life. The additional cash inflow is due to the salvage value of previously instilled investments, unused when the business's life is over. The residual business value in this industry is IDR 99,899,985 (Table 4). The salvage value that calculated only from Mr. Mulyana's industry because Ms. Caswiri's industry does not involve many assets or equipment operated for the production process, so the salvage value from Ms. Caswiri's industry can be ignored. Ms. Caswiri's industry relies on renting mills from other parties in the production process.

Table 4

Residual value of Mr. Mulyana's industry of Mina Laut

<i>No.</i>	<i>Investment components</i>	<i>Economic life (years)</i>	<i>Acquisition value (IDR)</i>	<i>Salvage value (IDR)</i>
1	Land	0	50,000,000	50,000,000
2	Building construction	20	49,999,950	14,999,985
3	Well construction	10	13,000,000	7,800,000
4	Electrical installation	10	1,000,000	600,000
5	The drying standing is made of bamboo	10	5,000,000	3,000,000
6	Motorcycle	10	15,000,000	9,000,000
7	Boat	10	20,000,000	12,000,000
8	Grinding machine	8	5,000,000	1,250,000
9	Milling drive machine	8	5,000,000	1,250,000
10	Electric scales	4	2,000,000	0
11	Manual scales	4	2,000,000	0
12	Basket for fermented paste	4	1,250,000	0
13	Bucket tub	4	500,000	0
14	Net for drying	4	700,000	0
	Total		170,449,950	99,899,985

Cash outflow. It shows a reduction in cash due to costs incurred to finance business activities at the beginning of the establishment or while the business is still running. The components contained in cash outflow include investment and reinvestment costs, operational costs, interest payments, loan capital, and corporate income tax.

Table 5 presents the total investment costs incurred at the beginning of the fermented paste processing business of IDR 170,449,950, and depreciation costs incurred until the end of the life of the project amount to IDR 6,459,998. Likewise, the industry must incur reinvestment costs (Table 6). This is because some of the industry's assets must be replaced, considering their economic life has expired. Meanwhile, the operation of the industry must continue during the project's life.

Operating costs. These costs include production, maintenance, and other costs, representing the expenses for each production process during one period of production activities. Operational costs consist of two components: fixed costs and variable costs.

Fixed cost. It is a cost whose amount is not influenced by the production or sales in one year. The fixed cost each year is the value of the bank loan installments allocated yearly. Mr. Mulyana's fermented paste processing industry borrowed a capital of IDR 10,000,000 in the first year, which will be returned to the bank in installments over three years. The bank set the credit interest rate at 9.05% at a fixed rate. Calculation of bank loan installment value operating the Capital Recovery Factor formula as follows:

$$A = P \frac{i(1+i)^n}{(1+i)^n - 1}$$

$$A = 100,000,000 \frac{9.05\%(1+9.05\%)^3}{(1+9.05\%)^3 - 1}$$

$$A = 3,954,068$$

Hence, Mr. Mulyana's fermented paste processing industry must spend the bank installment of IDR 3,954,068 annually.

Variable costs. The costs are incurred according to the amount of production each year. The research's variable costs consist of production costs (including electricity and water, transportation, wages for labor and milling service) and corporate income taxes. The same assumption states that variable costs (including production costs and income tax payments) operate only half, considering the time to build the factory and the limited demand at the beginning of the business. The total production costs incurred from the second year to the 14th year range between IDR 963,268,360 and IDR 1,373,390,351 (Table 7). Meanwhile, each year, expenditure on corporate income tax ranged between IDR 446,566 and IDR 932,753 (Table 8). The nominal tax spent is determined by multiplying the gross profit value obtained per year by 0.5 percent.

Profit and loss analysis. According to the analysis, the fermented paste processing industry experienced no losses and earned a total net profit of IDR 1,732,064,585 over its project life (Table 9). The net profit or loss obtained considers income from product sales, operational costs, and financial costs in operating a business, such as interest expended to banks, depreciation, and others.

Table 5

Investment costs of Mr. Mulyana's industry of Mina Laut

No.	Investment components	Amount	Unit	Price per unit (IDR)	Acquisition value (IDR)	Economic life (years)	Depreciation value (IDR)
1	Land	500	m ²	100,000	50,000,000	0	0
2	Building construction	105	m ²	476,190	49,999,950	20	1,749,998
3	Well construction	1	Package	13,000,000	13,000,000	10	520,000
4	Electrical installation	1	Package	1,000,000	1,000,000	10	40,000
5	The drying standing is made of bamboo	20	Unit	250,000	5,000,000	10	200,000
6	Motorcycle	1	Unit	15,000,000	15,000,000	10	600,000
7	Boat	1	Unit	20,000,000	20,000,000	10	800,000
8	Grinding machine	1	Unit	5,000,000	5,000,000	8	468,750
9	Milling drive machine	1	Unit	5,000,000	5,000,000	8	468,750
10	Electric scales	1	Unit	2,000,000	2,000,000	4	500,000
11	Manual scales	1	Unit	2,000,000	2,000,000	4	500,000
12	Basket for fermented paste	50	Pcs	25,000	1,250,000	4	312,500
13	Bucket tub	20	Pcs	25,000	500,000	4	125,000
14	Net for drying	20	m	35,000	700,000	4	175,000
	Total				170,449,950		6,459,998

Table 6

Reinvestment costs of Mr. Mulyana's industry of Mina Laut

No.	Investment components	Economic life (years)	Investment value (Rp)	Reinvestment			
				5th year	9th year	11th year	13th year
1	Land	0	50,000,000				
2	Building construction	20	49,999,950	0	0	0	0
3	Well construction	10	13,000,000	0	0	13,000,000	0
4	Electrical installation	10	1,000,000	0	0	1,000,000	0
5	The drying standing is made of bamboo	10	5,000,000	0	0	5,000,000	0
6	Motorcycle	10	15,000,000	0	0	15,000,000	0
7	Boat	10	20,000,000	0	0	20,000,000	0
8	Grinding machine	8	5,000,000	0	5,000,000	0	0
9	Milling drive machine	8	5,000,000	0	5,000,000	0	0
10	Electric scales	4	2,000,000	2,000,000	2,000,000	0	2,000,000
11	Manual scales	4	2,000,000	2,000,000	2,000,000	0	2,000,000
12	Basket for fermented paste	4	1,250,000	1,250,000	1,250,000	0	1,250,000
13	Bucket tub	4	500,000	500,000	500,000	0	500,000
14	Net for drying	4	700,000	700,000	700,000	0	700,000
	Total			6,450,000	16,450,000	54,000,000	6,450,000

Table 7

Production costs incurred by the fermented paste processing industry (a combination of Mr. Mulyana and Ms. Caswiri's industries)

No.	Variable cost components	Cost per years (IDR)						
		1	2	3	4	5	6	7
1	Diesel fuel	5,400,000	11,124,000	11,457,720	11,801,452	12,155,495	12,520,160	12,895,765
2	Sack	1,044,000	2,150,640	2,215,159	2,281,614	2,350,062	2,420,564	2,493,181
3	Rebon shrimp	48,000,000	98,880,000	101,846,400	104,901,792	108,048,846	111,290,311	114,629,020
4	Petek fish	150,000,000	309,000,000	318,270,000	327,818,100	337,652,643	347,782,222	358,215,689
5	Salt	15,212,000	31,336,720	32,276,822	33,245,126	34,242,480	35,269,754	36,327,847
6	Intermediate goods of fermented paste	36,000,000	74,160,000	76,384,800	78,676,344	81,036,634	83,467,733	85,971,765
7	Sugar	1,350,000	2,781,000	2,864,430	2,950,363	3,038,874	3,130,040	3,223,941
8	Monosodium glutamate	480,000	988,800	1,018,464	1,049,018	1,080,488	1,112,903	1,146,290
9	Inner packaging material	1,680,000	3,460,800	3,564,624	3,671,563	3,781,710	3,895,161	4,012,016
10	Packing cardboard	840,000	1,730,400	1,782,312	1,835,781	1,890,855	1,947,580	2,006,008
11	Labor wages	180,000,000	370,800,000	381,924,000	393,381,720	405,183,172	417,338,667	429,858,827
12	Electricity and water	1,200,000	2,472,000	2,546,160	2,622,545	2,701,221	2,782,258	2,865,726
13	Transportation	24,000,000	49,440,000	50,923,200	52,450,896	54,024,423	55,645,156	57,314,510
14	Milling service	2,400,000	4,944,000	5,092,320	5,245,090	5,402,442	5,564,516	5,731,451
	Total	467.606.000	963.268.360	992.166.411	1.021.931.403	1.052.589.345	1.084.167.026	1.116.692.036
No.	Variable cost components	Cost per years (IDR)						
		8	9	10	11	12	13	14
1	Diesel fuel	13,282,638	13,681,117	14,091,550	14,514,297	14,949,726	15,398,218	15,860,164
2	Sack	2,567,977	2,645,016	2,724,366	2,806,097	2,890,280	2,976,989	3,066,298
3	Rebon shrimp	118,067,891	121,609,928	125,258,226	129,015,972	132,886,452	136,873,045	140,979,236
4	Petek fish	368,962,160	380,031,024	391,431,955	403,174,914	415,270,161	427,728,266	440,560,114
5	Salt	37,417,682	38,540,213	39,696,419	40,887,312	42,113,931	43,377,349	44,678,670
6	Intermediate goods of fermented paste	88,550,918	91,207,446	93,943,669	96,761,979	99,664,839	102,654,784	105,734,427
7	Sugar	3,320,659	3,420,279	3,522,888	3,628,574	3,737,431	3,849,554	3,965,041
8	Monosodium glutamate	1,180,679	1,216,099	1,252,582	1,290,160	1,328,865	1,368,730	1,409,792
9	Inner packaging material	4,132,376	4,256,347	4,384,038	4,515,559	4,651,026	4,790,557	4,934,273
10	Packing cardboard	2,066,188	2,128,174	2,192,019	2,257,780	2,325,513	2,395,278	2,467,137
11	Labor wages	442,754,592	456,037,229	469,718,346	483,809,897	498,324,193	513,273,919	528,672,137
12	Electricity and water	2,951,697	3,040,248	3,131,456	3,225,399	3,322,161	3,421,826	3,524,481
13	Transportation	59,033,946	60,804,964	62,629,113	64,507,986	66,443,226	68,436,523	70,489,618
14	Milling service	5,903,395	6,080,496	6,262,911	6,450,799	6,644,323	6,843,652	7,048,962
	Total	1.150.192.797	1.184.698.581	1.220.239.539	1.256.846.725	1.294.552.127	1.333.388.691	1.373.390.351

Table 8

Expenditure on corporate income tax by the fermented paste processing industry
(a combination of Mr. Mulyana and Ms. Caswiri's industries)

Year	<i>Expenditure on corporate income tax (IDR)</i>
1	446,566
2	788,255
3	643,764
4	498,043
5	932,753
6	774,865
7	612,240
8	444,736
9	860,207
10	682,502
11	499,466
12	310,939
13	704,757
14	504,748

Table 9

Net profit the fermented paste processing industry (a combination of Mr. Mulyana and
Ms. Caswiri's industries)

Year	<i>Net profit (IDR)</i>
1	88.866.700
2	156.862.652
3	128.109.092
4	99.110.556
5	185.617.903
6	154.198.111
7	121.835.726
8	88.502.468
9	171.181.213
10	135.817.961
11	99.393.810
12	61.876.936
13	140.246.555
14	100.444.902
Total	1,732,064,585

Financial feasibility analysis. Table 10 demonstrates that the calculation of investment criteria in the fermented paste processing industry in Ciparagejaya village (the combined industry owned by Mr. Mulyana and Ms. Caswiri) is believed to be feasible. The NPV is IDR 852,497,002, greater than 0 (NPV > 0). This means the fermented paste processing industry positively benefits the project's life. According to present value, it generated profits of IDR 852,497,002 over 14 years, making the industry feasible to run.

Table 10

Results of financial feasibility analysis for the fermented paste processing industry
in Ciparagejaya Village, Tempuran Subdistrict, Karawang Regency

<i>Investment criteria</i>	<i>Result</i>	<i>Indicator</i>
NPV (IDR)	852,497,002	Greater than 0
Net B/C	6.31	Greater than 1
IRR (%)	76%	Greater than the discount rate (9.05 %)
Payback period (year)	1.49	Less than the project life (14 years)

Furthermore, the net B/C value obtained is greater than 1, indicating that the fermented paste processing industry is feasible. The net B/C value of 6.31 reveals that for every cost incurred of IDR 1, the net benefit obtained is IDR 6.31. The IRR value of 76 percent is greater than the discount rate employed of 9.05 percent, which indicates that the fermented paste processing industry is feasible to operate. The IRR value obtained represents the rate of return on the investment of 76 percent.

According to the payback period indicator, the fermented paste processing industry displays a payback period of 1 year, five months, and 28 days. It shows that the investment costs incurred have been fully returned within that period. Thus, the fermented paste processing industry is feasible because it is faster than the planned business life.

Conclusions. According to the financial business feasibility analysis, the fermented paste processing industry in Ciparagejaya village, Tempuran Subdistrict, Karawang Regency, is suitable for development. This confirms that the fish processing industry has excellent potential for development. The Karawang Regency government should immediately include this industry in its regional development plan. Moreover, the central government has included the fisheries-based food industry as a priority industry in national industrial development. Support from stakeholders, especially investors, universities, and young entrepreneurs, is truly needed to develop this industry.

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