

**AN ANALYSIS OF FINANCIAL FEASIBILITY OF
EMPING JAGUNG BUSINESS AT A
SMALL MEDIUM-SCALE INDUSTRY (LM3 IKM) OF
PONDOK PESANTREN SALAFIYAH SYAFI'YAH IN BANUROJA
RANDANGAN POHUWATO**

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ABSTRACT

This research aims to analyze (1) the production trend of *emping jagung* in IKM of Pondok Pesantren Salafiah Safiiah Banuroja Randangan Pohuwato before and during the COVID-19 pandemic and (2) financial feasibility of *emping jagung* business in IKM of Pondok Pesantren Salafiah Safiiah in Banuroja Randangan Pohuwato. This is quantitative research. Data sources are observation, interviews, and documentation. The data analysis deployed is quantitative descriptive. Results demonstrate that (1) According to the annual trend in 2010-2020, *emping jagung* production in IKM LKM3 of Pondok Pesantren Salafiah Safiiah in Banuroja Randangan Pohuwato is not stable and experienced a decreasing trend by 52.719% in 2020. Meanwhile, from the monthly data, in 2019 (before the COVID-19 pandemic), the production increased but turned to be unprogressive in 2020 (during the COVID-19 pandemic, specifically in March-September), and (2) The Net Present Value (NPV) of *emping jagung* business in IKM of Pondok Pesantren Salafiah Safiiah Banuroja Randangan Pohuwato was IDR275,010,089, which is higher than 1 and hence attests to the business feasibility. The Net B/C Ratio is higher than 1, indicating that the business is progressive. Additionally, the Internal Rate of Return (IRR) is higher than the applicable interest rate, and thus the business is feasible to develop. The Pay Back Period (PBP) is only in the fifth year so returns on investment can be returned in the medium term. Finally, the Break-Even Point of *emping jagung* business can be fulfilled at a product sale of 44.37% of the average production/year.

Keywords: *Financial Feasibility Analysis, Small Medium Enterprise, Emping Jagung Business*

INTRODUCTION

Gorontalo Province, which has the nickname “the Corn Province”, is determined to design a specific program which allows it to achieve one million tonnes of corn products per year, sustaining national food resilience. It should constantly boost corn productivity to meet the national demand. One of the districts making an exceptional contribution to corn production is Pohuwato. The district

comes with a variance of IKM with good employment levels. Meanwhile, IKM concentrating on food is the smallest and therefore has to be optimized. Based on our survey, corn (yields) in Gorontalo commonly functions as a daily staple food and domestic or international traded goods. If processed into food products, they can cost 10 times higher.

One of the food processing industries in Salafia Safiaa is using corn as the feedstock. *Emping jagung* is a

fried corn cracker, to which spice mixture and other condiments are added before processing the corn into crackers. This processed food is one of the favorite foods to be daily consumed as a side dish or snacks. As a consumable food with a unique taste, *emping jagung* is certainly potential to develop.

The number of *emping jagung* consumers and its easy making process turns *emping jagung* industries to be one of promising businesses. In Salafia Safiaa, there are 13 *emping jagung* producers. The number is higher than seven other producers operating there. Nevertheless, in early 2020, *emping jagung* business was confronting a difficult situation, in which the demand decreased, while IKM should continuously manage to enhance their production. This condition was brought

about by the COVID-19 phenomenon which started hitting in March 2020. In short, these businesses may have good progress yet will face a complex situation when experiencing a significant decrease in demand.

RESEARCH METHODS

This research was carried out in LM3 Pasantren Shalafia Shafiah in Banuroja Randangan Pohuwato in August-October 2020. This is mix-method research so the approach exerted is the incorporation of quantitative and qualitative ones.

RESEARCH RESULTS

A. *Emping Jagung* Production Trend in IKM of Pondok Pesantren Salafia Safiaah

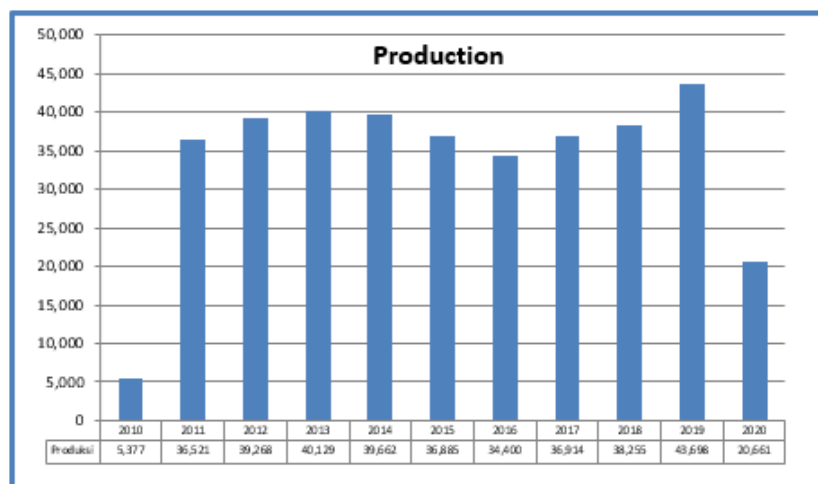


Figure 1: *Emping Jagung* Production in 2010-2020

The data of *emping jagung* production in IKM of Pondok Pesantren Salafia Safiaah is demonstrated in Figure 1. As exhibited in Figure 1, *emping jagung* production in IKM of Pondok Pesantren Salafia Safiaah Banuroja Randangan Pohuwato had an

increasing trend but then an extremely significant decreasing one in 2020. The result of the comparison of 2010-2020 production levels, which are before and during the COVID-pandemic production, is manifested in Table 1.

Table 1. *Emping Jagung* Production Trend Before and During the COVID-19 Pandemic

Annual			Monthly 2019			Monthly COVID-19		Sale COVID-19	
Year	Kg	%	Month	Kg	%	Production	%	Production	%
2010	5,377		Jan	3,589		3,080		3,029	
2011	36,521	579.204	Feb	3,590	0.028	3,080	0.000	3,030	0.033
2012	39,268	7.522	Mar	3,591	0.028	3,080	0.000	1,282	-57.690
2013	40,129	2.193	Apr	3,591	0.000	1,294	-57.987	1,274	-0.624
2014	39,662	-1.164	May	3,592	0.028	1,294	0.000	1,276	0.157
2015	36,885	-7.002	Jun	3,593	0.028	1,295	0.077	1,275	-0.078
2016	34,400	-6.737	Jul	3,593	0.000	2,115	63.320	2,285	79.216
2017	36,914	7.308	Aug	3,594	0.028	2,115	0.000	2,803	22.670
2018	38,255	3.633	Sep	3,595	0.028	2,115	0.000	2,427	-13.414
2019	43,698	14.228	Oct	3,595	0.000				
2020	20,661	-52.719	Nov	3,596	0.028				
			Dec	3,596	0.000				

Source: Processed Data, 2020

Referring to Table 1, the *emping jagung* production trend in LM3 fluctuates. In 2010-2011, the trend increased significantly because in 2010, LM3 transformed into a home industry with larger production and marketing capacities. Furthermore, in 2011, because of a high public (consumer) demand, machinery was improved to support operating activities. Nevertheless, in 2014-2016, the

production trend decreased owing to poor sales of the previous year's production. In 2017-2019, the production escalated but then experienced a dramatic decline by 52.719% in 2020.

The comparison between *emping jagung* production in 2019 and that in 2020 (during the COVID-19 pandemic) is indicated in Figure 2.

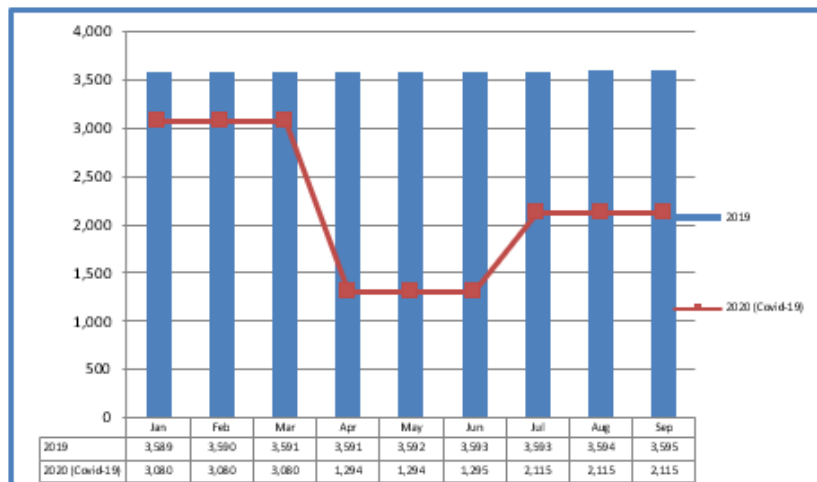


Figure 2: Comparison Between 2019 and 2020's *Emping Jagung* Production

Based on Figure 2, in 2019, LM3 IKM of Pondok Pesantren Salafiah Safiiah Banuroja Randangan Pohuwato

had a stable *emping jagung* production. In the first three months of 2020, i.e., January, February, and March, the

production was still consistent. However, in mid-March, because of the social restriction and PSBB policies, the sale was declining, impacting April-June's production. Meanwhile, in early June, as the impact of the new normal policy revived the economy, production could be increased to September. Nevertheless, on the last days of September, it declined as the result of the local government policy which instructed to re-conduct an immediate social restriction in Gorontalo Province, including Pohuwato.

Processing corn seed into commercial food is still rare because of several ground issues, one of which is inadequate knowledge of the community. There are some commercial corn seed processed food products, e.g., *emping jagung*. Kustiary (2012) clarifies that the value-added acquired from corn processed into *emping jagung* is 52.9% or IDR3,700/kg. Additionally, as contended by Awarni (2013), the value-added earned from corn processing into *emping jagung* in Grobogan is IDR4,574/kg at a net value of IDR2,421/kg. The profit is 20% of the input.

Based on the annual trend of 2010-2020, *emping jagung* production in IKM

LM3 of Pondok Pesantren Salafiah Safiiah in Banroja Randangan Pohuwato is unstable. In 2020, it declined by 52.719%. Moreover, in 2019 (before the COVID-19 pandemic), the production trend was considered good yet in 2020 (during the COVID-19 pandemic), particularly in March-September), it was considered unprogressive. We can say that the pandemic has caused a serious impact on businesses, and hence producers should take anticipatory actions responding to unexpected situations which may impede their business operation.

B. Financial Feasibility of *Emping Jagung* Business in IKM of Pondok Pesantren Salafiah Safiiah

The analysis of business attributed to financial affairs is explained as follows:

1. Business cost

The analysis result of the cost is demonstrated in Table 2. Table 2 exhibits a total production cost of IDR1,165,220,704, and the highest cost is the variable one, i.e., IDR760,240,704 at a percentage of 79.54%. The fixed cost is IDR239,400,000 or 20.55% of the total cost.

Table 2. *Emping Jagung* Business Cost

Year	Fixed Cost		Variable Cost		Total Cost
	Salary	Depreciation	HPP	Total	
2010	18,000,000	29,220,000	2,045	10,993,949	58,213,949
2011	18,000,000	29,220,000	1,947	71,115,535	118,335,535
2012	18,000,000	29,220,000	1,965	77,146,096	124,366,096
2013	18,000,000	9,740,000	1,965	78,837,630	106,577,630
2014	21,600,000	9,740,000	1,965	77,920,154	109,260,154
2015	21,600,000	9,740,000	2,051	75,656,370	106,996,370
2016	21,600,000	9,740,000	2,051	70,559,253	101,899,253
2017	21,600,000	9,740,000	2,051	75,715,854	107,055,854

2018	27,000,000	9,740,000	2,195	83,983,968	120,723,968
2019	27,000,000	9,740,000	2,195	95,933,446	132,673,446
2020	27,000,000	9,740,000	2,051	42,378,450	79,118,450
Total		239,400,000		760,240,704	1,165,220,704
Proportion		20.55%		79.45%	100.00%

Source: Processed data, 2020

2. Business revenue

The analysis result of business revenue is indicated in Table 3. Table 3 indicates that the revenue for the total *emping jagung* production in IKM LM3 of Pondok Pesantren Salafiah Safiiah in Banroja Randangan Pohuwato in 2010-2020 was IDR1,644,661,500. The

highest revenue, namely IDR212,525,000, was achieved in 2019, whereas the lowest was in 2010, as the consequence of minimum production during the early establishment of the industry, and in 2020, as the consequence of the COVID-19 pandemic.

Table 3. *Emping Jagung* Business Revenue

Year	Revenue		
	Kg	Unit	Total
2010	5,325	4,500	23,962,500
2011	34,992	4,500	157,464,000
2012	33,936	4,500	152,712,000
2013	36,526	4,500	164,367,000
2014	38,908	4,000	155,632,000
2015	36,226	4,000	144,904,000
2016	33,869	5,000	169,345,000
2017	36,397	5,000	181,985,000
2018	37,672	5,000	188,360,000
2019	42,505	5,000	212,525,000
2020	18,681	5,000	93,405,000
Total	355,037	4,636	1,644,661,500

Source: Processed data, 2020

3. Business income

The analysis result of business income is manifested in Table 4. As pointed out in Table 4, the income on *emping jagung* business in IKM LM3 of Pondok Pesantren Salafiah Safiiah in

Banroja Randangan Pohuwato in 2010-2020 was IDR474,774,564. The value is considered good as it reaches 28.87% of the total revenue, or the Net Profit Margin of business is 28.87%, which is considered good as it has exceeded 20%.

Table 4. *Emping Jagung* Business Income

Year	Total Revenue	Total Cost	Gross Income	PPh	Net Income
2010	23,962,500	58,213,949	-34,251,449	0	-34,251,449
2011	157,464,000	118,335,535	39,128,465	391,285	38,737,181
2012	152,712,000	124,366,096	28,345,904	283,459	28,062,445
2013	164,367,000	106,577,630	57,789,370	577,894	57,211,477
2014	155,632,000	109,260,154	46,371,846	463,718	45,908,127
2015	144,904,000	106,996,370	37,907,630	379,076	37,528,554

2016	169,345,000	101,899,253	67,445,747	674,457	66,771,290
2017	181,985,000	107,055,854	74,929,146	749,291	74,179,855
2018	188,360,000	120,723,968	67,636,032	676,360	66,959,672
2019	212,525,000	132,673,446	79,851,554	399,258	79,452,296
2020	93,405,000	79,118,450	14,286,550	71,433	14,215,117
Total	1,644,661,500	1,165,220,704	479,440,796	4,666,232	474,774,564

Source: Processed data, 2020

4. Estimated business revenue, cost, and income in 2021-2030

The analysis result is shown in Table 5. Based on Table 5, IKM LM3 of Pondok Pesantren Salafiah Safiiah in

Banroja Randangan Pohuwato constantly optimize its *emping jagung* business. By 2021-2030, it will likely earn consistent profits which can sustain the business.

Table 5. Estimated Business Revenue, Cost, and Income in 2021-2030

Year	Revenue	Total Cost	% of Revenue	% of Sale
2010	23,962,500	58,213,949		
2011	157,464,000	118,335,535	557.127	103.277
2012	152,712,000	124,366,096	-3.018	5.096
2013	164,367,000	106,577,630	7.632	-14.303
2014	155,632,000	109,260,154	-5.314	2.517
2015	144,904,000	106,996,370	-6.893	-2.072
2016	169,345,000	101,899,253	16.867	-4.764
2017	181,985,000	107,055,854	7.464	5.060
2018	188,360,000	120,723,968	3.503	12.767
2019	212,525,000	132,673,446	12.829	9.898
2020	93,405,000	79,118,450	-56.050	-40.366
Average %			53.415	7.711
Alpha			-85,816,292	
Beta			2.222	
Year	Revenue	Total Cost	Net Income (Cash Flow)	
			Gross	Net
2021	103,506,016	85,219,348	18,286,668	18,195,235
2022	118,104,835	91,790,691	26,314,144	26,182,574
2023	133,829,384	98,868,757	34,960,627	34,785,824
2024	150,766,467	106,492,619	44,273,848	44,052,479
2025	169,009,584	114,704,364	54,305,220	54,033,694
2026	188,659,445	123,549,325	65,110,120	64,784,570
2027	209,824,525	133,076,328	76,748,197	76,364,456
2028	232,621,664	143,337,968	89,283,696	88,837,278
2029	257,176,712	154,390,893	102,785,820	102,271,891
2030	283,625,223	166,296,118	117,329,104	116,742,459

Source: Processed data, 2020

5. Net Present Value (NPV)

The analysis result of NPV is presented in Table 6. Referring to Table 6, the NPV is IDR275,010,089, which is

hence over 0, confirming it is in a good state. Therefore, *emping jagung* business in IKM LM3 of Pondok Pesantren Salafiah Safiiah in Banroja Randangan

Pohuwato is considered feasible and thus should be managed and developed for its production.

Table 6. Net Present Value (NPV)

Year	Cash Flow	Discount Factor (10%)	NPV
2010	-248,531,449	0.909	-225,937,681
2011	68,348,465	0.826	56,486,335
2012	57,565,904	0.751	43,250,116
2013	67,529,370	0.683	46,123,468
2014	56,111,846	0.621	34,841,041
2015	47,647,630	0.564	26,895,845
2016	77,185,747	0.513	39,608,493
2017	84,669,146	0.467	39,498,782
2018	77,376,032	0.424	32,814,991
2019	89,591,554	0.386	34,541,422
2020	24,026,550	0.350	8,421,159
2021	28,026,668	0.319	8,930,160
2022	36,054,144	0.290	10,443,601
2023	44,700,627	0.263	11,771,072
2024	54,013,848	0.239	12,930,486
2025	64,045,220	0.218	13,938,106
2026	74,850,120	0.198	14,808,697
2027	86,488,197	0.180	15,555,662
2028	99,023,696	0.164	16,191,166
2029	112,525,820	0.149	16,726,246
2030	127,069,104	0.135	17,170,921
Total			275,010,089

Source: Processed data, 2020

6. Net B/C ratio

The analysis result of the B/C Ratio is showcased in Table 7. Table 7 shows off a Net B/C Ratio of 12,680, signifying 12 orders of opportunity bigger to acquire profits from one loss.

We analyze the benefit and cost ratio from benefit comparison, which is between revenue and cost. The analysis result is 1,393, demonstrating higher revenues than costs spent.

Table 7. Net B/C Rasio

No.	Stage	PV Approach		Real Value Approach	
		Positive PV	Negative PV	Revenue	Cost
1	Number	394,829,247	31,137,681	1,288,665,452	924,973,885
2	Ratio	12.680		1.393	
3	Criteria	Good		Good	

Source: Processed data, 2020

7. Internal Rate of Return (IRR)

The analysis result of the Internal Rate of Return (IRR) is demonstrated in

Table 8. As exhibited in Table 8, the Internal Rate of Return (IRR) is 27.288%, which is higher than the interest rate of 10%. With such a

capability of 27.288%, a sale decrease by 25% will still confer good profits to the industry.

Table 8. Internal Rate of Return (IRR)

Year	Cash Flow	Discount Factor (10%)		Discount Factor (10%)		Discount Factor (10%)	
		DF 10%	NPV	DF 15%	NPV	DF 13%	NPV
2010	-248,531,449	0.909	-225,937,681	0.870	-216,114,303	0.769	-191,178,037
2011	68,348,465	0.826	56,486,335	0.756	51,681,259	0.592	40,442,879
2012	57,565,904	0.751	43,250,116	0.658	37,850,516	0.455	26,202,050
2013	67,529,370	0.683	46,123,468	0.572	38,610,137	0.350	23,643,910
2014	56,111,846	0.621	34,841,041	0.497	27,897,504	0.269	15,112,551
2015	47,647,630	0.564	26,895,845	0.432	20,599,385	0.207	9,871,455
2016	77,185,747	0.513	39,608,493	0.376	29,016,981	0.159	12,300,808
2017	84,669,146	0.467	39,498,782	0.327	27,678,494	0.123	10,379,546
2018	77,376,032	0.424	32,814,991	0.284	21,995,097	0.094	7,296,529
2019	89,591,554	0.386	34,541,422	0.247	22,145,662	0.073	6,498,806
2020	24,026,550	0.350	8,421,159	0.215	5,164,344	0.056	1,340,647
2021	28,026,668	0.319	8,930,160	0.187	5,238,385	0.043	1,202,960
2022	36,054,144	0.290	10,443,601	0.163	5,859,806	0.033	1,190,396
2023	44,700,627	0.263	11,771,072	0.141	6,317,480	0.025	1,135,290
2024	54,013,848	0.239	12,930,486	0.123	6,638,004	0.020	1,055,249
2025	64,045,220	0.218	13,938,106	0.107	6,844,178	0.015	962,483
2026	74,850,120	0.198	14,808,697	0.093	6,955,514	0.012	865,278
2027	86,488,197	0.180	15,555,662	0.081	6,988,689	0.009	769,089
2028	99,023,696	0.164	16,191,166	0.070	6,957,932	0.007	677,354
2029	112,525,820	0.149	16,726,246	0.061	6,875,359	0.005	592,086
2030	127,069,104	0.135	17,170,921	0.053	6,751,268	0.004	514,315
Total			275,010,089		131,951,691		-29,124,356
IRR				27.288%			

Source: Processed data, 2020

8. Payback Period (PBP)

The analysis result of the Payback Period (PBP) is indicated in Table 9. We can observe from Table 9 that there was a return on investment in *emping jagung* business in IKM LM3 of Pondok

Pesantren Salafiah Safiiah in Banroja Randangan Pohuwato in the fifth year, i.e., 2014. It is confirmed by our informant, who conveys that in 2015, the business started to generate higher profits.

Table 9. Payback Period (PBP)

Year	Revenue	Cost		Cash Flow	Cumulated Cash Flow
		Operating	Investment		
2010	23,962,500	28,993,949	243,500,000	-248,531,449	-248,531,449

2011	157,464,000	89,115,535		68,348,465	-180,182,983
2012	152,712,000	95,146,096		57,565,904	-122,617,079
2013	164,367,000	96,837,630		67,529,370	-55,087,709
2014	155,632,000	99,520,154		56,111,846	1,024,137
2015	144,904,000	97,256,370		47,647,630	48,671,766
2016	169,345,000	92,159,253		77,185,747	125,857,514
2017	181,985,000	97,315,854		84,669,146	210,526,660
2018	188,360,000	110,983,968		77,376,032	287,902,692
2019	212,525,000	122,933,446		89,591,554	377,494,246
2020	93,405,000	69,378,450		24,026,550	401,520,796
2021	103,506,016	75,479,348		28,026,668	429,547,464
2022	118,104,835	82,050,691		36,054,144	465,601,608
2023	133,829,384	89,128,757		44,700,627	510,302,235
2024	150,766,467	96,752,619		54,013,848	564,316,083
2025	169,009,584	104,964,364		64,045,220	628,361,303
2026	188,659,445	113,809,325		74,850,120	703,211,423
2027	209,824,525	123,336,328		86,488,197	789,699,620
2028	232,621,664	133,597,968		99,023,696	888,723,316
2029	257,176,712	144,650,893		112,525,820	1,001,249,136
2030	283,625,223	156,556,118		127,069,104	1,128,318,240
				1,128,318,240	7,955,909,017
					-6,827,590,776
					0.142

Source: Processed data, 2020

9. Break-Even Point (BEP)

The analysis result of Break-Even Point (BEP) is pointed out in Table 10. Based on Table 10, the average Break-Even Point of *emping jagung* product sales in IKM LM3 of Pondok Pesantren Salafiah Safiiah in Banroja Randangan Pohuwato is 14,994 kg or IDR67,473844. In the first year, namely 2010, the sale was only 5,377 kg,

causing the business to suffer from loss. Additionally, the revenue for BEP is higher than one, indicating that the business is feasible to develop as it can generate profits in spite of a low Break-Even Point. In general, the Break-Even Point of *emping jagung* business can be met with the product sale of 44.37 of the average production/year.

Table 10. Break-Event Point (BEP)

Year	Fixed Cost	Selling Price	Variable	BEP Unit	BEP Price	Revenue	BEP Revenue
2010	47,220,000	4,500	2,045	19,231	86,540,752	23,962,500	0.277
2011	47,220,000	4,500	1,947	18,498	83,240,032	157,464,000	1.892
2012	47,220,000	4,500	1,965	18,624	83,809,769	152,712,000	1.822
2013	27,740,000	4,500	1,965	10,941	49,235,133	164,367,000	3.338
2014	31,340,000	4,500	1,965	12,361	55,624,697	155,632,000	2.798
2015	31,340,000	4,500	2,051	12,798	57,590,388	144,904,000	2.516

2016	31,340,000	4,500	2,051	12,798	57,590,388	169,345,000	2.941
2017	31,340,000	4,500	2,051	12,798	57,590,388	181,985,000	3.160
2018	36,740,000	4,500	2,195	15,942	71,738,652	188,360,000	2.626
2019	36,740,000	4,500	2,195	15,942	71,738,652	212,525,000	2.962
2020	36,740,000	4,500	2,051	15,003	67,513,429	93,405,000	1.384
Average				14,994	67,473,844	149,514,682	2.338

Source: Processed data, 2020

Figure 3 is the curve depicting the Break-Even Point of *emping jagung* business in IKM LM3 of Pondok Pesantren Salafiah Safiiah in Banroja Randangan Pohuwato. IKM of Pondok Pesantren Salafiah Safiiah in Banroja Randangan Pohuwato should optimize investments to production. Referring to our prediction, in 2021-2030, this business will show good progress but the management should pay more attention to cost-efficiency. It is aligned with Kastmana (2004), the need for investment is determined based on production tools and materials needed within a given period. *Emping jagung*

production cost is affected by fixed and variable costs.

A fixed cost constitutes the cost which must be periodically spent, and the amount is fixed, without any intervention of the number of product units or activity levels generated. It is composed of depreciation of investment equipment, rental fees for premises, equipment maintenance cost, management, and capital interest. If they intend to manage the business professionally, in accounting a fixed cost, they should assume to spend some money on rental fees for premises and management costs (permanent employees who run the business).

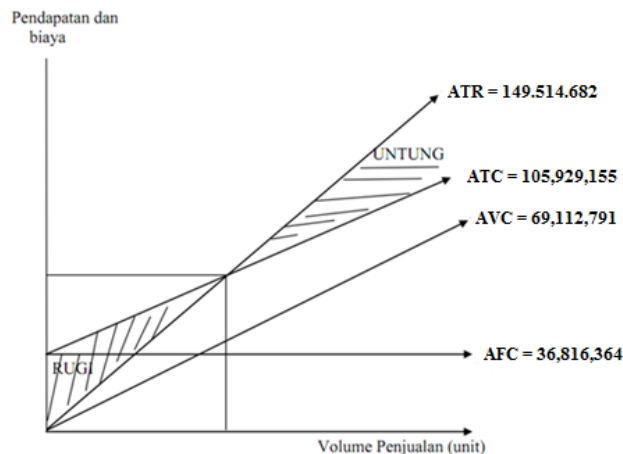


Figure 3: BEP Curve of *Emping Jagung* Business

CONCLUSION

1. As stated by the annual trend in 2010-2020, *emping jagung* production in IKM LM3 of Pondok Pesantren Salafiah Safiiah in Banroja Randangan

Pohuwato is unstable. In 2020, it showed a decline of 52.719%. Meanwhile, referring to monthly data, in 2019 (before the COVID-19 pandemic), the production showed a good

production trend. However, in 2020 (during the COVID-19 pandemic), specifically in March-September, both production and sales were unprogressive.

2. Attributed to financial feasibility, IKM LM3 of Pondok Pesantren Salafiah Safiiah in Banroja Randangan Pohuwato had a Net Present Value (NPV) of IDR275,010,089, which is higher than one, so the business it runs is feasibly operated, a Net B/C Ratio which is higher than one, hence the business is considered progressive, an Internal Rate of Return (IRR) which is higher than the applicable interest rate, so the business is feasible to develop, a Pay Back Period (PBP) or Return on Investment (MPI), which is in the fifth year, showing off investment which could be returned in the medium term, and a Break-Even Point which is fulfilled, justified by a product sale of 44.37% of the average production/year.

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