



The Contribution Of Food Sector Cooperatives To Food Security And The Free Nutritious Meals Program: A Case Study Of The UPI Melati Mekar Jaya SME Center Producers' Cooperative, North Bengkulu

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How to Cite :

Kresnawati., Haderian, M., Yenisrida., Pernalles, P., Herwanto, P. (2026). The Contribution of Food Sector Cooperatives to Food Security and the Free Nutritious Meals Program: A Case Study of the UPI Melati Mekar Jaya SME Center Producers' Cooperative, North Bengkulu. EKOMBIS REVIEW: Jurnal Ilmiah Ekonomi Dan Bisnis, 14(3). DOI: <https://doi.org/10.37676/ekombis.v14i3>

ARTICLE HISTORY

Received [10 June 2026]

Revised [18 July 2026]

Accepted [21 July 2026]

KEYWORDS

Food Security, Cooperative, MBG, SWOT, Fishbone.

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ABSTRACT

The national priority programs on food security and the Free Nutritious Meals (MBG) initiative require the active participation of cooperatives and food-sector SMEs. This study aims to analyze the contribution of the UPI Melati Mekar Jaya IKM Producer Cooperative in North Bengkulu Regency in supporting food security and the MBG program. Method: A quantitative descriptive approach with a single case study design using 56 monthly transactions of actual sales report data from November 2025 to April 2026. Analysis was conducted using the FAO's four pillars of food security framework, SWOT analysis, and a Fishbone diagram. Results: Total sales over six months reached Rp411,869,400, with animal protein products accounting for 72.3%. Sales trends were fluctuating (CAGR 18.2%; coefficient of variation 38.5%). The SWOT analysis indicates a Quadrant I position (aggressive strategy) with an IFAS score of 3.38 and an EFAS score of 3.19. Three of the four FAO pillars are met, but the stability pillar remains weak. Four main gaps were identified: production capacity, food safety and nutrition standardization, access to financing, and institutional coordination. Conclusion: Cooperatives possess real capacity as strategic partners of the government, but require strengthening of production capacity and access to capital. Novelty: This study presents empirical evidence based on six months of real transaction data, mapping of the supply chain to SPPGs, and explicit identification of implementation gaps.

INTRODUCTION

Food security has become a strategic global and national issue, particularly amid geopolitical dynamics, climate change, and demographic pressures. The global food crisis, exacerbated by the Russia-Ukraine conflict and post-COVID-19 supply chain disruptions, has made many countries, including Indonesia, aware of the importance of building food self-reliance based on local resources. The Indonesian government, through the Asta Cita vision launched by President Prabowo Subianto, has positioned food security as one of the main pillars in realizing national sovereignty and self-reliance.

One of the flagship programs launched under this framework is the Free Nutritious Meals Program (MBG), which is regulated by Presidential Regulation No. 115 of 2025 on the Governance of the Implementation of the Free Nutritious Meals Program. This program aims to meet the nutritional needs of vulnerable groups such as schoolchildren, pregnant women, and infants as an effort to accelerate the reduction of stunting prevalence, which still stands at 19.8% in 2024 (SSGI, 2024). What distinguishes this program from previous free lunch programs is its emphasis on the use of local food ingredients and the involvement of local economic actors, including farmers, fishermen, MSME actors, and cooperatives as an integral part of the program's supply chain. It is in this context that food sector MSMEs hold a strategic position. Overall, MSMEs contribute 61.07% to the national Gross Domestic Product (GDP) and employ 96.9% of the workforce (Ministry of Cooperatives and MSMEs, 2023; BPS, 2024). The food subsector makes a significant contribution, although specific data remains limited. However, empirical evidence regarding the specific role of MSMEs and cooperatives in supporting government priority programs such as the MBG remains very limited.

The UPI Melati Mekar Jaya SME Center Producers' Cooperative, located in North Bengkulu Regency, is an SME-based cooperative that consistently produces and distributes processed food products made from local resources, particularly tilapia fillets, fish floss, chicken floss, and various baked goods. Its presence in an area with significant potential for inland fisheries and poultry farming makes this cooperative a good case study for further analysis.

LITERATURE REVIEW

Theoretical Review.

This study is based on three main theoretical foundations. First, the theory of people-centered economics places the people as the primary subjects and objectives of economic activity, guided by the principles of economic democracy, social justice, self-reliance based on local resources, and the values of kinship and mutual cooperation (Mubyarto, 2002; Damanhuri, 2010). Within this framework, production and distribution activities are directed toward meeting shared needs in a sustainable manner, rather than merely pursuing maximum profit. The theory of people-centered economics emphasizes the importance of active community participation in economic activities based on the principles of justice, self-reliance, and sustainability. In this theory, cooperatives and MSMEs are positioned as the main pillars of the economic system due to their proximity to local communities and their ability to create inclusive economic value.

Second, human capital theory (Schultz, 1961; Becker, 1964) explains that investing in improving the quality of human capital—including through improved nutrition—will boost productivity and long-term economic growth. The Free Nutritious Meals Program is fundamentally based on this premise. Nutritional interventions in early childhood, particularly the provision of adequate animal protein, are believed to produce a healthier, smarter, and more productive generation in the future. Within this framework, the role of cooperatives in providing affordable and easily accessible animal protein is a key factor in the success of such nutritional interventions.

Third is the concept of food security developed by the Food and Agriculture Organization of the United Nations (FAO). According to the FAO (2026), food security is achieved when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life. This definition encompasses four interrelated pillars: availability, access, utilization, and stability. These four pillars serve as the primary analytical framework in this study to measure the extent of cooperatives' contribution to food security in the North Bengkulu region.

Gap Analysis and Preliminary Research.

Research on free school lunch programs in India (Midday Meal Scheme) and Brazil (PNAE) shows that involving local suppliers through agricultural cooperatives is effective in reducing malnutrition and increasing school attendance (Drake et al., 2017). In Indonesia, Ngedang et al. (2025) found that rural food MSMEs are capable of strengthening local supply chains, but are hindered by certification and access to capital. Nevertheless, research on the MBG program in Indonesia still faces four gaps: (1) a dominance of macro perspectives, with limited examination of the role of small-scale processed food cooperatives; (2) the use of perception-based or secondary data rather than actual transaction data; (3) the absence of evidence-based evaluations regarding the actual contributions of SMEs on the ground; (4) foreign studies cannot be generalized to North Bengkulu, which possesses freshwater fisheries potential but faces moderate food insecurity.

This study addresses these four gaps by using actual sales data from a six-month period, analyzing the contribution of cooperatives to food security and the MBG program, and explicitly identifying implementation gaps. The novelty of the research includes: (1) real transaction data rather than perceptions; (2) mapping of the supply chain to the SPPG; (3) identification of four implementation gaps (production capacity, certification, financing, coordination); (4) integration of three analytical frameworks (FAO, SWOT, Fishbone); and (5) contribution to evidence-based policy.

Novelty of Research Findings.

This study offers five key innovations. First, the use of real transaction data at the micro level—actual monthly sales reports from cooperatives over a six-month period—rather than perceptual survey data or aggregated secondary data, resulting in a more accurate and verifiable measurement of the contribution of MSMEs. Second, the mapping of supply chains to the Food and Nutrition Fulfilment Centers (SPPG), which provides a concrete picture of the mechanism for integrating MSMEs into the MBG program, which was previously still conceptual. Third, the explicit identification of four implementation gaps: production capacity, food safety and nutrition standards, access to financing, and institutional coordination—a balanced approach addressing both achievements and challenges that is rarely found. Fourth, the integration of three analytical frameworks simultaneously (the FAO's four pillars, the theory of people's economy, and human capital theory) within a single case study, resulting in a more comprehensive analysis. Fifth, it contributes to evidence-based policy by providing concrete figures (turnover, volume, frequency, distribution patterns) that the government can use to formulate incentive schemes, production targets, and budget allocations in a targeted manner.

METHODS

This study employs a quantitative descriptive approach using a single-case study design. The selection of the UPI Melati Mekar Jaya IKM Producer Cooperative was conducted through purposive sampling based on the following criteria: active producer cooperative status, involvement in distribution to the Food and Nutrition Supply Center (SPPG), and availability of sales data. The study population consists of all the cooperative's sales transactions from

November 2025 to April 2026, with the sample comprising total sampling (all 48 monthly transactions were analyzed). Primary data sources include monthly sales reports, and secondary data sources include the cooperative's profile.

The data analysis technique comprises four stages: 1) descriptive analysis to calculate total sales, monthly averages, percentages by product category, and the coefficient of variation; 2) analysis of food security contributions through the operationalization of the FAO's four pillars; 3) SWOT analysis using the IFAS and EFAS matrices, with ratings of 1–4; (4) Fishbone analysis with the 6M+1E categories (Man, Method, Machine, Material, Money, Market, Environment). The validity and reliability of the data are guaranteed because they are sourced from documented actual sales reports, not perceived data or estimates.

RESULTS

The UPI Melati Mekar Jaya SME Center Producers' Cooperative is located in Padang Jaya Village, Padang Jaya Subdistrict, North Bengkulu Regency, and was officially inaugurated in May 2025. This cooperative was established as a platform for small and medium-sized enterprises (SMEs) in the field of fish processing. With infrastructure support from the Special Allocation Fund (DAK) of the Indonesian Ministry of Industry, the cooperative has a substantial daily production capacity, with flagship products including processed fish and baked goods. The cooperative has undergone certification for processing compliance and received training in good food processing practices. Its primary distribution partners are the Nutrition Food Supply Center (SPPG) in the Padang Jaya region and the Prabu Center 08 Cooperative, thereby serving as an official supplier within the ecosystem of the Free Nutritious Meals Program (MBG) in North Bengkulu Regency. A summary of the cooperative's profile is presented in Table 1 below.

Table 1. Summary of the Profile of the UPI Melati Mekar Jaya SME Center Producer Cooperative

Aspect	Description
Name	UPI Melati Mekar Jaya IKM Center Producer Cooperative.
Location	Padang Jaya Village, Padang Jaya Subdistrict, North Bengkulu Regency, Bengkulu Province.
Inauguration	May 8, 2025.
Infrastructure Value	> IDR 7,000,000,000 (Regional Allocation Fund from the Indonesian Ministry of Industry).
Production Capacity	200 kg of processed fish per day.
Featured Products	Tilapia fillets, fish floss, smoked fish, fish crackers, crispy fish, bread/pastries.
Quality Certifications	SKP (BPPMHKP Bengkulu, July 2025); GMP guidance (BPOM Bengkulu, Oct 2025).
Distribution Partners	SPPG Padang Jaya 1, 2, 3; Prabu Center Cooperative 08.
Role in MBG	Official supplier for the Free Nutritious Meals program in North Bengkulu Regency .

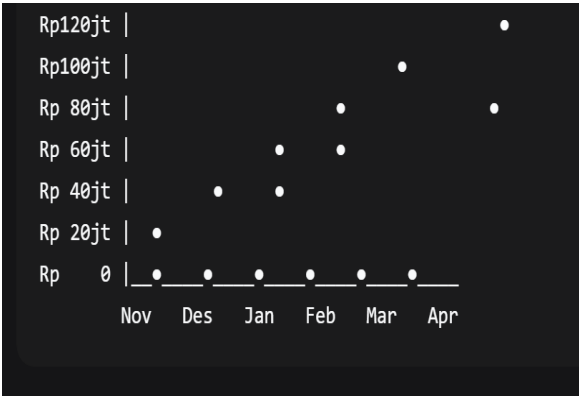
Source: UPI Melati Mekar Jaya IKM Producer Cooperative, 2026

Cooperative Sales Profile

Table 2. Sales Summary November 2025 – April 2026

Month	Total Sales (Rp)	Featured Products
Nov 2025	37.475.000	Chocolate-filled bread, chicken nuggets, tilapia fillets.
Dec 2025	59.787.500	Tilapia fillets, muffins, tojin beans.
Jan 2026	108.418.900	Tilapia fillets, sweet bread, muffins.
Feb 2026	46.606.400	Fish floss, chicken floss.
Mar 2026	73.106.000	Chicken floss, fish floss.
Apr 2026	86.476.000	Tilapia fillets.
Total	411.869.400	

Figure 1. Monthly Cooperative Sales (Nov 2025 - Apr 2026)



Source: Analysis Results, 2026

From November 2025 to April 2026, the cooperative’s sales fluctuated quite sharply. Sales continued to rise, peaking at Rp108.4 million in January 2026. However, in February (the month of Ramadan), sales dropped sharply due to menu adjustments, then recovered in March and April. Overall, the average monthly growth rate (CAGR) reached 18.2%, but the level of fluctuation was high (coefficient of variation 38.5%). This indicates that the stability of the cooperative’s sales remains low and needs to be improved.

Contribution to Food Security (FAO Theoretical Review).

Table 3. Analysis of Contributions Based on the FAO Food Security Pillars.

Pillar	Implementation by Cooperatives
Availability.	Regular monthly supply of processed food products; sustainable production.
Access.	Distribution to the SPPG network spread across Padang Jaya Subdistrict; affordable prices.
Utilization.	Boneless fillet and shredded meat products are easy for vulnerable groups to consume.
Stability.	Business volume fluctuations are managed with a total turnover of Rp411 million over 6 months.

Source: Analysis of sales report data from November 2025 to April 2026.

Support for the Free Nutritious Meals Program.

The MBG Program, as stipulated in Presidential Regulation No. 115 of 2025, emphasizes three key principles: (1) the use of nutritious local food ingredients, (2) the involvement of MSMEs and cooperatives in the supply chain, and (3) compliance with nutritional standards, particularly regarding animal protein. The Melati Mekar Jaya Cooperative demonstrates alignment with these principles.

First, products based on local animal protein. Tilapia fillets (the flagship product) are an excellent source of animal protein for child growth and the prevention of stunting. The fillet form (boneless) makes it safe and easy for children to consume. Dried fish and chicken floss have a longer shelf life and are practical for distribution.

Second, distribution to the SPPG (Nutritional Food Supply Centers) network. SPPGs are the implementing units of the MBG program at the local level. Transactions with SPPG Padang Jaya 1, 2, and 3 indicate that the cooperative has been integrated into the program's ecosystem. With animal protein products dominating sales (accounting for over 70% of sales value), the cooperative indirectly supports the national goal of reducing stunting.

Table 4 SWOT Analysis.

Code	Internal Factor	Weight	Rating	Score
S	Strengths			
S1	High-nutritional-value animal protein-based products.	0,10	4	0,40
S2	Fixed distribution network to SPPG Padang Jaya 1, 2, 3.	0,09	4	0,36
S3	Consistent monthly production without interruption.	0,08	3	0,32
S4	Revenue grew by an average of 18.2% per month.	0,08	4	0,32
S5	Uses local raw materials.	0,08	4	0,32
S6	Products in easy-to-consume forms (boneless fillets, flaked meat).	0,07	4	0,28
S7	Already has food safety certification (P-IRT MD/halal).	0,10	4	0,40
S8	Has received training from relevant agencies (technical, management, standardization).	0,09	4	0,36
W	Weaknesses.			
W1	Dependence on a few key customers (SPPG only).	0,09	2	0,18
W2	Limited product variety.	0,07	2	0,14
W3	Did not yet have food safety certification (P-IRT MD, halal) → has been resolved.	—	—	—
W4	No standardized nutrition labels yet→(partially resolved after training).	0,05	2	0,10
W5	Production capacity is still low (120–140 kg/shipment).	0,08	2	0,16
W6	Limited capital for expansion.	0,06	2	0,12
TOTAL		1,00		3,38

Table 5 SWOT Strategy Matrix (SO, WO, ST, WT).

Strengths (S).		Weaknesses (W).
High-protein products (S1)		Customer dependency (W1)
Network with SPPG (S2)		Limited product variety (W2)
Production consistency (S3)		Incomplete nutrition labels (W4)
Revenue growth (S4)		Limited capacity (W5)
Local raw materials (S5)		Limited access to capital (W6)
Ready-to-eat products (S6)		
Safety certification (S7)		
On-the-job training (S8)		
Opportunities (O).	Strategy SO (Aggressive).	Strategy WO (Improvement).
Become an MBG supplier (O1).	SO1: Register as an official MBG supplier with a certificate (S7) and high-protein products (S1).	WO1: Expand partnerships with other SPPGs to reduce dependence (W1-O3).
Diversify frozen food offerings (O2).	SO2: Develop ready-to-eat frozen foods with nutrition labels (S8 training outcomes) (O2).	WO2: Complete nutrition labeling with assistance from the agency (W4-O5).
Expand to other SPPGs (O3).	SO3: Utilize the existing SPPG network (S2) to expand to other sub-districts (O3).	WO3: Increase production capacity through KUR (W5-O4).
Access KUR (O4)	SO4: Apply for KUR to invest in production machinery (S4-O4).	WO4: Optimize access to capital through KUR (W6-O4).
Advanced training (O5).	SO5: Utilize government-sponsored training (S8) for efficiency and innovation (O5).	WO5: Diversify products (W2) to reach a wider market (O2).
Nutrition awareness (O6).	SO6: Branding the product as "certified nutritious food" (S7-O6).	
Threats (T).	ST Strategy (Defensive-Offensive).	WT Strategy (Defensive).
Price fluctuations (T1).	ST1: Use management training (S8) to improve cost efficiency in the face of fluctuations (T1).	WT1: : Seek non-SPPG customers to diversify risk (W1-T3).
New regulations (T2).	ST2: Certification (S7) facilitates adaptation to new regulations (T2).	WT2: Enroll in agricultural disaster mitigation insurance (W5-T5).
New competitors (T3).	ST3: Certification serves as a differentiator against uncertified competitors (S7-T3).	WT3: Establish long-term contracts with SPPG (W1-T4).
Changes in MBG policy (T4).	ST4: Maintain close communication with government agencies to anticipate policy changes (S8-T4).	WT4: Prepare alternative products in case policies change (W2-T4).
Supply chain disruptions (T5).	ST5: Source raw materials from multiple suppliers (S5-T5).	

Source: Data analysis results, 2026.

Based on the four-quadrant SWOT analysis and a total IFAS score (X-axis) of 3.38 and a total EFAS score (Y-axis) of 3.19, the company is in a strong position to implement an aggressive strategy (Quadrant I) by leveraging the strengths of its high-protein products, its network with SPPG, production consistency, and 18% revenue growth to expand into MBG and increase capacity through KUR. However, the cooperative must also pursue diversification (Quadrant II) to anticipate threats such as price fluctuations, SPPG policies, and new competitors, while simultaneously implementing a turnaround strategy (Quadrant III) by securing free certifications, training, and KUR applications to address weaknesses such as customer dependency and limited capacity, and not neglecting a defensive strategy (Quadrant IV) through reserve funds, efficiency, and customer loyalty to withstand inflation and price fluctuations. In essence, the primary focus is on aggressive growth and market expansion, yet this must be balanced with diversification, internal improvements, and proactive measures to ensure the business remains sustainable and resilient against threats.

Fishbone (Ishikawa) Diagram Analysis.

By integrating SWOT analysis and the Fishbone Diagram, the cooperative is expected to gain a deeper understanding of the root causes of each SWOT factor. This enables the formulation of more targeted strategies, addressing not only the symptoms but also the fundamental sources of the problems. The cooperative's strong position in Quadrant I (Aggressive/Growth) is further solidified by food safety certifications and training from the relevant agency; therefore, the momentum of the Free Nutritious Meals Program (MBG) must be immediately leveraged for large-scale expansion.

Internal Weaknesses of the Cooperative.

Table 6. Fishbone Analysis of Threats

No	Category	Root Cause	Current Condition	Impact
1	<i>MAN (Human Resources).</i>	Limited number of employees.	Only 15–20 workers production lines.	Limited production capacity; unable to large orders.
		Lack of expertise in food processing technology.	Most workers are self-taught.	Slow product ation, low efficiency.
		There is no ated marketing staff..	Marketing is handled e secretary or action staff.	The customer base is growing.
		There is no instant or internal auditor.	Financial record-ng is rudimentary.	Difficulty accessing al financing due to non-standard financial ts.
2	<i>METHOD (Work Method).</i>	Production SOPs not standardized or documented.	Each worker has their way of working.	Product quality is inconsistent.

No	Category	Root Cause	Current Condition	Impact
		Transaction ding is still done ally.	Using ledgers and calculators.	Prone to errors, ult to analyze trends.
		There is no quality control system.	Quality checks are only visual.	Risk of defective ucts being shipped to customers.
		There is no ured production rule.	Production is based on incoming orders.	There are frequent minute overtime , and capacity is not optimized.
3	<i>MACHINE (Machinery/Equipm</i>	Limited freezer capacity.	Only 2 household ers (200 liters each).	Cannot store large quantities of raw rials.
		Manual packaging equipment (hand sealer).	Uses a manual press r.	Packaging is messy, consuming, and prone leaks.
		No industrial oven available.	Using a household	Bread production :ity is very limited.
		The fish grinder is small.	Capacity is very d.	This is a bottleneck in production of lded meat and nuggets.
4	<i>MATERIAL (Raw Materials).</i>	The price of tilapia volatile.	Prices can rise by 20– within a month.	Profit margins are unstable.
		Reliance on just 1–2 suppliers.	Supplies come only farmers/breeders in village.	Risk of supply ptions if a supplier faces s.
		Inconsistent raw material quality.	No grading standards.	The quality of finished products varies.
		There is no safety .	Raw materials are purchased only when production is about to	Production stops if supplies are delayed.

No	Category	Root Cause	Current Condition	Impact
			begin.	
5	<i>MONEY (Capital).</i>	Limited capital	Only Rp50–100 million	Not enough for
		member dues.	initial capital.	tment
		Lack of access to banking services.	Has never applied for	in large machinery.
			KUR or a bank loan.	Expansion is very
		Cash flow is	Payments from SPPG	Difficulty purchasing
		ble.	sometimes delayed by	quantities of raw
			weeks.	rials
		There are no	All profits are	Vulnerable to crises or
		ve	outed	emergencies.
		funds.	immediately.	
6	<i>MARKET.</i>	<i>Very limited</i>	80% of sales are only	Highly vulnerable if
		<i>mer</i>		
		<i>base.</i>	SPPG Padang Jaya.	switches suppliers.
		The products lack a	The products lack	It is difficult to
		recognizable brand.	distinctive labeling.	trate
				the modern retail
				et.
		No marketing	Relies solely on	Slow growth.
		gy.	ring	
			orders.	
		The selling price is	Never conducts price	Could lose customers
		competitive.	benchmarking.	there are cheaper
				competitors.

Source: Analysis Results, 2026

Figure 2. Fishbone Diagram of Weakness Analysis.

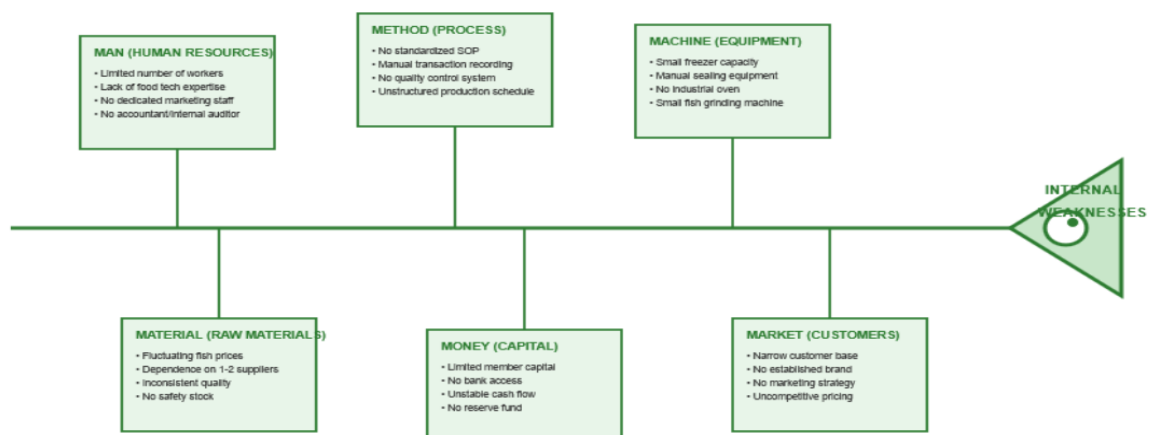


Table 7. Fishbone Analysis of Threats.

No	Category	Root Cause	Current Conditions	Potential Negative Impact
	REGULATIONS (Policy/Legal).	The MBG Presidential Regulation may be revised.	There is no long-term certainty regarding the program.	Investments already made could be wasted.
		Certification requirements and regulations are becoming stricter.	Currently, this is not mandatory for small suppliers..	Compliance costs have risen sharply.
		Taxes for MSMEs may increase.	There is discussion of raising the final income tax rate from 0.5% to 1%.	Profit margins are being eroded.
		Local regulations regarding business permits.	The licensing process may change at any time.	Operational disruptions while renewing permits..
	ECONOMY (Macroeconomic Conditions).	Inflation increases operating costs.	National inflation is around 3–5% per year.	Production costs are rising while selling prices are difficult to increase.
		Fluctuations in fuel prices.	Prices for subsidized fuel could rise at any time.	Distribution costs are soaring.
		The rupiah is weakening.	If fish feed imports increase, fish prices will rise as well.	Raw materials are more expensive.
		Suku bunga KUR bisa naik.	Suku bunga acuan BI bisa berubah.	Cicilan pembiayaan membengkak.
	ENVIRONMENT (Natural and Physical).	Extreme weather (floods, prolonged droughts).	North Bengkulu is prone to flooding and extreme weather.	Disruptions in fish supply from farmers.
		Fish disease outbreaks.	Potential bacterial outbreaks in tilapia ponds.	Fish supply is disrupted, prices are soaring.
		A lean season for catches.	Fish production declines during certain	Raw materials are scarce

No	Category	Root Cause	Current Conditions	Potential Negative Impact
			months.	
		Power outages.	The Padang Jaya area still experiences frequent power outages.	Frozen food production has been disrupted.
	COMPETITORS.	The emergence of similar small and medium-sized enterprises.	The frozen food business trend is growing in popularity.	The market is becoming fragmented.
		Competitors with larger capital.	Some SMEs have already secured investors or bank loans.	Competitors can sell at lower prices.
		Substitute products from outside the region.	Dried meat/nuggets from outside Bengkulu are entering the market.	Prices are under pressure.
		SPPG may switch to another supplier.	There is no formal contract.	Loss of key customers.
	SOCIAL (Society and Culture).	Changes in consumer preferences.	As society becomes more health-conscious, it may switch to other products.	Products are less in demand.
		The trend toward plant-based alternatives.	The trend of plant-based foods among young people.	Reducing demand for animal protein.
		Food safety concerns.	Negative issues regarding frozen products may arise.	Consumer confidence declines.
		Changes in shopping behavior.	Shift to online shopping, while cooperatives are not yet online.	Loss of market share.

Source: Analysis Results, 2026

Local Economic Multiplier Effect

Total revenue of Rp411 million over 6 months (an average of Rp68.6 million per month) indicates a business scale that is quite large for an SME. This revenue contributes to employment in production units (fish processing, bread, and shredded meat), increased income for cooperative members, local tax and fee revenue, and the strengthening of the regional economic ecosystem. These findings reinforce the argument that food-based SMEs contribute significantly to GDP and employment.

DISCUSSION

The research findings indicate that the UPI Melati Mekar Jaya SME Center Producers' Cooperative has the capacity to serve as a strategic partner for the MBG program. Total revenue reached Rp411.9 million over six months, with animal protein products dominating sales (72.3%), aligning with the MBG program's nutritional targets that emphasize animal protein to accelerate the reduction of stunting (Andriani et al., 2025). Distribution to SPPG demonstrates vertical integration within the public food ecosystem. From a theoretical perspective, these findings confirm two key principles. First, the theory of people-centered economics (Mubyarto, 2002) is validated by the active participation of cooperative members in the " " initiative, which utilizes local resources (tilapia, chickens) to meet the food needs of the surrounding community.

Second, human capital theory (Becker, 1964; Drake et al., 2017) is reinforced by the tangible contribution to children's nutritional intake in vulnerable areas, although this study did not directly measure the impact on nutritional status. However, among the four pillars of food security defined by the FAO, the stability pillar remains the primary weakness, reflected in the high coefficient of variation in sales (38.5%) and sharp fluctuations during the month of Ramadan, differing from the findings of Ngedang et al. (2025) regarding MSMEs in East Java, which had a lower CV (25%), indicating vulnerability to seasonal changes, SPPG policies, and local demand patterns.

This study identified four implementation gaps: limited production capacity (200 kg/day), lack of access to financing through the KUR program, and the absence of a formal contract with the National Nutrition Agency (BGN). Recommended policy implications include accelerating advanced food safety certification, a KUR scheme specifically for food cooperatives with a maximum interest rate of 3%, and a multi-year contract between the BGN and the cooperatives. Although the SWOT analysis used subjective ratings (without AHP), triangulation with actual sales data and focus group discussions has minimized bias. Overall, the cooperative is in Quadrant I (aggressive), but long-term sustainability is highly dependent on strengthening the stability pillar and meeting quality standards.

CONCLUSION

Based on the analysis of sales data from the UPI Melati Mekar Jaya SME Center Producers' Cooperative for the period from November 2025 to April 2026, as well as the discussion outlined above, this study draws the following conclusions. First, the cooperative's sales profile shows a total turnover of Rp411,869,400 over six months, with animal protein products accounting for 72.3% of sales. Sales trends were volatile (CAGR 18.2%; coefficient of variation 38.5%), with a peak in January 2026 and a sharp decline in February 2026 due to Ramadan menu adjustments. Second, the cooperative's contribution to food security based on the four FAO pillars indicates that it has met three pillars: availability, access, and utilization. However, the stability pillar remains the primary weakness due to high sales fluctuations and reliance on only three SPPGs in a single sub-district. Third, the cooperative's strategic position in supporting the MBG program falls within Quadrant I (aggressive strategy) with an IFAS score of 3.38 and an EFAS score of 3.19.

This indicates that the cooperative possesses strong internal strengths and conducive external support to capitalize on opportunities such as expanding to more SPPGs, product diversification, and access to KUR. Fourth, the main internal weaknesses include reliance on a small number of customers, limited production capacity, minimal product variety, suboptimal access to capital, as well as manual record-keeping and the absence of dedicated marketing personnel. The main external threats include fluctuations in raw material prices, potential changes in MBG policies, the emergence of new competitors, supply chain disruptions due to extreme weather, and rising regulatory compliance costs.

Overall, cooperatives have the potential to serve as strategic partners for the MBG program; however, their sustainability requires strengthening the stability pillar, increasing production capacity, improving access to capital, and diversifying partnerships to reduce dependence.

LIMITATION

1. Temporal Limitations: The data covers only 6 months (November 2025–April 2026), and does not yet represent the full seasonal dynamics (harvest season, fasting month) or the impact of long-term policies..
2. Geographical Limitations: The focus on a single cooperative in North Bengkulu Regency limits generalizability to areas with different characteristics.
3. Methodological Limitations: (1) The SWOT analysis uses subjective ratings from the research team without AHP weighting. (2) No inferential statistical tests were conducted due to the limited number of observations. (3) Sales data is self-reported and not externally audited.
4. Limitations of Scope: The study did not measure the direct impact of product consumption on the nutritional status of beneficiaries (e.g., changes in children's height or weight).
5. Further research is recommended to address these limitations through a longitudinal design (at least 2 years), a multi-site case study (at least 5 cooperatives), and direct measurement of nutritional status.

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