



Papua's Local Banana Agribusiness Development Strategy to Increase Farmers' Income in Sorong Regency

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Abstract

Purpose of Study: This study aims to analyze the development strategy of local Papuan banana agribusiness to increase farmer income in Sorong Regency, Southwest Papua Province. The agricultural sector plays an important role in supporting regional economic development, particularly through the development of local agricultural commodities with high economic value, such as local Papuan bananas.

Methodology: This research employed a descriptive method with a mixed-method approach, combining quantitative and qualitative analysis. Data were collected through field observations, interviews, questionnaires, and documentation. The sample was determined using purposive sampling. Data analysis included descriptive analysis, farm income analysis, and SWOT analysis to identify strengths, weaknesses, opportunities, and threats.

Main Findings: The results showed that local Papuan banana farming contributes significantly to household income in Sorong Regency. The average farmer income from banana farming reached Rp8,250,000 per planting season. The strengths of local banana agribusiness include favorable natural conditions, stable market demand, and the distinctive quality of local bananas. Opportunities include increasing public demand for local food products, government support, processed product development, and digital marketing potential. However, farmers still face challenges such as limited access to technology, fluctuating market prices, and limited transportation and distribution access.

Novelty/Originality of This Study: The strategies for developing local Papuan banana agribusiness are expected to improve farmer income, strengthen regional economic development, and enhance the competitiveness of local Papuan banana products in regional and national markets.

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INTRODUCTION

Background of the study:

The agricultural sector is a strategic sector that plays a crucial role in supporting regional economic development, particularly in Papua, which is rich in natural resources and boasts agro-climatic conditions with significant potential for the development of various agricultural commodities. The agricultural sector serves not only as a food supplier but also as a primary source of livelihood, a source of employment, and a driver of local economic growth. In Sorong Regency, the agribusiness sector is a leading sector, contributing to improving community welfare, expanding employment opportunities, and strengthening regional food security in a sustainable manner. One local commodity with significant development potential is the Papuan banana.

The Papuan banana is a horticultural commodity that has long been cultivated by the community due to its high economic value, ease of cultivation, and relatively stable market demand. In addition to serving as a local food source, bananas also hold social and cultural values deeply rooted in Papuan

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life. Various local banana varieties, such as the kepok banana, the horn banana, and the raja banana, are abundant in Sorong Regency and serve as a source of income for farmers. Sorong Regency's fertile geography and favorable tropical climate allow banana plants to grow and produce year-round. The immense potential of Papua's local banana commodity offers excellent opportunities for regional agribusiness development. Bananas can be marketed not only fresh but also processed into various value-added products such as banana chips, banana sale, banana flour, and other processed products with higher economic value (Kraithong & Issara, 2021). With planned and sustainable agribusiness development, local banana commodities are expected to increase farmer incomes, strengthen the rural economy, and enhance the competitiveness of local Papuan products in regional and national markets.

Agribusiness development strategies are crucial to increasing productivity, business efficiency, and income for local banana farmers in Sorong Regency. Agribusiness development focuses not only on increasing production yields but also encompasses comprehensive farm management, from cultivation and processing to distribution and marketing. Within the context of modern agricultural development, agribusiness is a highly relevant approach, enabling it to create a more productive, value-added, and market-oriented agricultural system (Okello & Luttah, 2022). Therefore, the development of local Papuan banana agribusiness needs to be planned and sustainable to improve the welfare of farming communities in Sorong Regency. Sorong Regency boasts natural resource potential and geographic conditions that strongly support the development of local banana commodities. Banana plants thrive in the fertile soil and tropical climate found throughout Sorong Regency. Furthermore, local bananas also have significant economic value, as market demand for bananas continues to rise, both for household consumption and the food processing industry. Local Papuan bananas, such as the kepok banana, the raja banana, and the horn banana, have a distinctive flavor that is appealing and has the potential to be developed as a superior regional product.

Despite its significant potential, the development of the local banana agribusiness in Sorong Regency still faces various obstacles and challenges (Sharma et al., 2021). One of the main issues faced by farmers is low agricultural productivity due to the limited application of modern and efficient cultivation technologies. Most farmers still use traditional methods in the production process, resulting in suboptimal harvest quality and quantity. Furthermore, limited access to production inputs, market information, business capital, and post-harvest technology also hinder the development of the local banana agribusiness (Wahome et al., 2021). Another frequently encountered problem is a weak agricultural marketing system. Farmers generally sell their harvest as fresh fruit at relatively low prices and rely on middlemen. This situation weakens farmers' bargaining power, thus hindering their profits from significantly increasing their income. However, bananas have the potential to be developed into various processed products with higher added value, such as banana chips, banana sale, banana flour, and other local food products (Olutomilola, 2021). Diversification of processed products is one strategy that can be implemented to increase competitiveness and expand market opportunities for local Papuan banana products.

To address these challenges, a comprehensive and sustainable agribusiness development strategy is needed. This strategy can be implemented through strengthening farmer group institutions, increasing the capacity of farmers' human resources, developing access to agricultural technology, improving marketing systems, and increasing support from the government and relevant stakeholders. Strengthening farmer institutions is crucial for enhancing collaboration, access to information, and increasing farmers' ability to develop agribusiness independently (Widadie dkk., 2021). Furthermore, government support in the form of training, provision of production facilities, business capital assistance, and opening market access is also crucial for the successful development of local banana agribusinesses in Sorong Regency.

With an appropriate development strategy oriented toward local potential, local Papuan bananas are expected to become a superior regional commodity with high competitiveness and a significant contribution to improving the local economy. Developing a local banana agribusiness will not only increase farmers' incomes but also create jobs, encourage the growth of small and medium enterprises, and strengthen regional food security in a sustainable manner. Therefore, research on strategies for developing local Papuan banana agribusinesses is crucial as a basis for formulating effective policies and development measures to improve farmer welfare in Sorong Regency.

METHOD

Research Location and Time:

This research was conducted in Sorong Regency, Southwest Papua Province. The research location was determined using a purposive method (Sugiyono, 2018; Mukhlis et al., 2019; Mukhlis et al., 2024; Asgaf et al., 2025), deliberately chosen because the area has significant potential for developing local Papuan bananas and is supported by suitable agro-climatic conditions for banana cultivation. The research was conducted over approximately two months, encompassing preparation, data collection, data analysis, and report preparation.

Research Type and Approach:

This research uses a descriptive method with both quantitative and qualitative approaches (mixed methods) (Matović & Ovesni, 2023). The quantitative approach was used to analyze farmer income and the condition of the local banana agribusiness, while the qualitative approach was used to identify obstacles and strategies for developing the local Papuan banana agribusiness. The research method was conducted through field surveys using observations, interviews, and questionnaires.

Population and Sample:

The population in this study was all local Papuan banana farmers in Sorong Regency. The sample was determined using purposive sampling (Mubarokah et al., 2024; Marliyah et al., 2025; Ogari et al., 2026), selecting farmers who actively cultivate local bananas and have at least three years of farming experience. Supporting informants included agricultural extension workers, wholesalers, and representatives from the Sorong Regency Agriculture Office.

Data Collection Method:

The data used consists of primary and secondary data (Sugiyono, 2022; Mukhlis et al., 2022; Ogari et al., 2026). Primary data was obtained through interviews, observations, and questionnaires covering farmer characteristics, production, income, marketing, and farming business constraints. Secondary data was obtained from the Department of Agriculture, the Central Statistics Agency (BPS), scientific journals, books, and other supporting documents.

Data collection techniques are carried out through:

1. Field observations
2. Interviews with respondents
3. Distribution of questionnaires
4. Documentation of data and research activities

Data Analysis Method:

The data analysis used includes:

1. Descriptive Analysis, to describe the condition of local Papuan banana agribusiness in Sorong Regency
2. Farm Business Income Analysis, to determine the level of farmer income using the formula:
 $Pd = TR - TC$
and the income is calculated using the formula:
 $TR = P \times Q$
3. SWOT analysis is used to identify strengths, weaknesses, opportunities, and threats in the development of local Papuan banana agribusiness so that appropriate development strategies can be obtained to increase farmer income in Sorong Regency.

RESULTS AND DISCUSSION

Result

Overview of Local Papuan Banana Agribusiness in Sorong Regency

Sorong Regency is a region in Southwest Papua Province with significant potential for agricultural development, particularly horticultural commodities such as local Papuan bananas. Its fertile geographical conditions, sufficient rainfall, and favorable tropical climate allow bananas to grow and produce throughout the year. Commonly cultivated banana varieties include kepok bananas, raja bananas, and horn bananas (Naufalin dkk., 2021). These commodities are not only used as household food but also serve as a source of income for farmers in Sorong Regency.

Based on field research, most farmers still manage banana farming traditionally on a small scale. The cultivation systems used are generally simple and have not fully implemented modern agricultural technology. Nevertheless, local banana production still offers significant market potential due to the relatively high public demand for bananas.

Characteristics of Local Banana Farmers

The following table 1. shows the characteristics of local Papuan banana farmers in Sorong Regency based on age, education level, farming experience, and area of farming land.

Table 1. The characteristics of local Papuan banana farmers in Sorong Regency

No	Farmer Characteristics	Information	Percentage (%)
1	Farmer Age	25–45 Years (Productive Age)	65%
		>45 Years	35%
2	Level of education	Elementary school (SD)	40%
		Junior high school (SMP)	35%
		Senior High School (SMA)	25%
3	Farming Experience	5–10 Years	55%
		>10 Years	45%
4	Land area	<1 Ha	60%
		1–2 Ha	40%
5	Farming Status	Side Business	70%
		Main Business	30%

Data processed in 2026

Based on the table 1. above, the majority of local banana farmers in Sorong Regency are of productive age, thus offering good potential for developing the local Papuan banana agribusiness. Farmers' education levels generally remain at elementary or secondary school level, which impacts their ability to access modern agricultural technology and market information. Long-term farming experience is a crucial asset in managing banana farming, although some large farmers still manage their land on a small scale. Furthermore, banana farming is largely still a sideline, resulting in suboptimal management. This situation has resulted in low crop productivity and limited development of the local banana agribusiness in Sorong Regency.

Analysis of Local Banana Farming Income

Based on research results, local banana farming in Sorong Regency contributes to household income. Farmers' income is derived from the sale of fresh bananas to wholesalers and traditional markets. Income is influenced by production volume, selling price, production costs, and the marketing system employed by farmers.

Research results show that most farmers still sell their harvest as fresh fruit without further processing, resulting in relatively low added value. Furthermore, fluctuations in banana prices in the market also impact farmers' income levels. Production costs include labor, transportation, plant maintenance, and harvesting costs.

The average analysis of local banana farming income in Sorong Regency can be seen in the following table:

Table 2. Analysis of Local Banana Farming Income in Sorong Regency

No	Description	Mark (Rp/MT)
1	Banana Production	2.500 Kg
2	Average Selling Price	5.000/Kg
3	Total Receipts (TR)	12.500.000
4	Production cost	
	a. Labor costs	2.000.000
	b. Transportation costs	750.000
	c. Maintenance Costs	1.000.000
	d. Harvest Costs	500.000
5	Total cost (TC)	4.250.000
6	Net income (Pd = TR - TC)	8.250.000

Data processed in 2026

Internal and External Factors in the Development of Local Banana Agribusiness

Based on research results and a SWOT analysis, the development of the local Papuan banana agribusiness in Sorong Regency is influenced by internal and external factors, which serve as the basis for developing strategies for local banana farming.

1. Internal Factors

Internal factors consist of strengths and weaknesses originating from the internal conditions of local banana farming businesses in Sorong Regency.

Table 3. Internal Factors in the Development of Local Papuan Banana Agribusiness

No	Internal Factors	Description
1.	(Strengths)	<ol style="list-style-type: none"> 1. Availability of sufficient land for developing banana farming businesses 2. Agroclimatic conditions that support the growth of banana plants throughout the year 3. Local Papuan bananas have a distinctive taste and are popular with the public. 4. Market demand for local bananas is relatively stable
2.	(Weaknesses)	<ol style="list-style-type: none"> 1. Low mastery of cultivation and post-harvest technology 2. Limited capital for farmers' businesses 3. The marketing system is still traditional 4. Lack of innovation in banana-based processed products

Data processed in 2026

Based on Table 3 above, the main strengths in the development of local Papuan banana agribusiness are the natural conditions of Sorong Regency, which strongly support banana cultivation, and the high public interest in local banana products. Furthermore, relatively stable market demand provides a good opportunity for banana farming development. However, the development of local banana agribusiness still faces several weaknesses, such as low mastery of modern cultivation technology, limited business capital, and a rudimentary marketing system. These conditions result in suboptimal productivity and added value for local banana products.

2. External Factors

External factors consist of opportunities and threats originating from the environment outside the local banana farming business.

Table 4. External Factors in the Development of Papuan Local Banana Agribusiness.

No	External Factors	Description
1.	(Opportunities)	<ol style="list-style-type: none"> 1. High market demand for local food 2. Government support for the development of the agricultural sector 3. Opportunities for developing banana-based processed products 4. Marketing potential through digital media
2.	(Threats)	<ol style="list-style-type: none"> 1. Competition with banana products from outside the region 2. Market price fluctuations 3. Pest and plant disease attacks 4. Limited access to transportation and distribution

Data processed in 2026

Based on the analysis of external factors, the greatest opportunities for developing local Papuan banana agribusiness are increasing public demand for local food and government support for agricultural sector development. Furthermore, advances in information technology provide opportunities for farmers to expand product marketing through digital media.

On the other hand, farmers also face several threats, such as competition from products from outside the region, fluctuating market prices, and pest and plant disease attacks that can reduce production. Limited access to transportation and distribution in several areas of Sorong Regency also poses a barrier to marketing agricultural products.

By understanding these internal and external factors, a more effective strategy for developing local Papuan banana agribusiness can be formulated to increase productivity, added value, and farmer income in Sorong Regency.

Strategy for Developing Papuan Local Banana Agribusiness

Based on the SWOT analysis, an integrated strategy for developing local Papuan banana agribusiness in Sorong Regency is needed to increase productivity, product quality, and farmer income. This development strategy is based on internal and external conditions affecting local banana farming, thus supporting sustainable and competitive agribusiness development (Rosyada et al., 2023).

Table 5. Strategy for Developing Local Papuan Banana Agribusiness in Sorong Regency.

No	Strategi Pengembangan	Tujuan
1	Increasing farmer capacity through training in cultivation and post-harvest technology	- Increase the productivity and quality of local banana harvests
2	Strengthening farmer group institutions	- Facilitating cooperation, access to capital, and marketing of agricultural products
3	Diversification of processed banana products such as chips, sale, and banana flour	- Increase added value and product competitiveness
4	Development of a modern marketing system based on digital media	- Expand marketing network and increase product sales
5	Increased government support through assistance with production facilities and access to capital	- Support the development of local banana farming businesses in a sustainable manner

Data processed in 2026

Based on the table above, the main strategy that needs to be implemented is to increase farmer capacity through training in cultivation and post-harvest technology. This training aims to improve farmers' knowledge and skills in managing banana farming in a more modern and efficient manner, thereby increasing productivity and harvest quality. Furthermore, strengthening farmer group institutions is also a crucial step in supporting the development of local Papuan banana agribusiness.

Through farmer groups, farmers can improve collaboration in procuring production inputs, marketing agricultural products, and gaining access to capital assistance and market information. Diversification of processed products based on local bananas also needs to be developed to increase product added value. Processing bananas into chips, banana sale, banana flour, and other processed products can provide new business opportunities and increase farmer incomes. Furthermore, developing modern marketing through digital media is a crucial strategy for expanding market access and increasing the competitiveness of local Papuan agribusiness products. Support from the government and relevant stakeholders is also essential for the development of local banana agribusiness in Sorong Regency, particularly through the provision of production inputs, agricultural extension services, farming training, and access to capital for farmers. By implementing the right development strategy, it is hoped that the local Papuan banana agribusiness will be able to develop into a superior regional commodity that is competitive and able to improve the welfare of the farming community in Sorong Regency.

Discussion

The research results indicate that the local Papuan banana agribusiness has significant potential for development as a leading regional commodity in Sorong Regency. This potential is supported by geographical and agro-climatic conditions that are highly suitable for banana cultivation, such as good soil fertility, adequate rainfall, and a tropical climate that allows bananas to grow and produce year-round. Furthermore, the high public demand for local Papuan bananas also presents an excellent opportunity to support banana agribusiness development in Sorong Regency.

Local Papuan bananas have distinct advantages compared to products from other regions, particularly in terms of taste, quality, and the diversity of banana varieties cultivated by the community. These conditions are a key strength in increasing the competitiveness of local banana commodities in the market. However, the research results indicate that the development of the local banana agribusiness still faces various obstacles that impact farmer productivity and income.

One of the main challenges faced by farmers is their limited ability to access and implement modern agricultural technology. Most farmers still use traditional cultivation systems with rudimentary farm management, resulting in suboptimal crop productivity. The use of low-quality seeds, minimal plant maintenance, and limited knowledge of post-harvest technology contribute to the relatively low yield and quality of local bananas. Besides production, the marketing system also poses a barrier to the development of Papua's local banana agribusiness. Research shows that most farmers still rely on middlemen to market their harvest. This weakens farmers' bargaining power, as the selling price is largely determined by the middlemen. As a result, farmers' income is insufficient to maximize profits, despite high market demand for local bananas.

Another problem is the low level of development of processed products based on local bananas. Most farmers still sell their harvests as fresh fruit without further processing. However, processing agricultural products into value-added products such as banana chips, banana sale, banana flour, and various other processed products can increase the economic value of the product and expand market opportunities. Developing a value-added agribusiness is a crucial strategy for increasing farmer income and welfare. Based on the SWOT analysis, the strategy for developing Papua's local banana agribusiness needs to be implemented in an integrated manner through increasing farmer capacity, strengthening farmer group institutions, developing cultivation and post-harvest technology, and expanding marketing networks. The use of digital media can also be a modern marketing alternative that can help farmers expand market access and improve the competitiveness of local Papuan products.

Furthermore, support from the government and relevant stakeholders is essential for the development of the local banana agribusiness in Sorong Regency. This support can take the form of agricultural extension services, assistance with production facilities, training in agricultural processing, and access to capital for farmers. With synergy between the government, farmers, agricultural extension workers, and business actors, the development of Papua's local banana agribusiness is expected to be sustainable. With the right development strategies, Papua's local banana agribusiness has significant potential to improve farmer welfare, create new jobs, and support regional economic development in Sorong Regency. Therefore, the development of the local

banana agribusiness needs to be continuously encouraged to ensure it becomes a leading regional commodity with high competitiveness at the regional and national levels.

CONCLUSION

The strengths in developing the local banana agribusiness include supportive natural conditions, relatively stable market demand, and the unique quality and flavor of local Papuan bananas. Opportunities that can be exploited include the increasing public demand for local food, government support for agricultural sector development, opportunities for developing banana-based processed products, and the use of digital media as a modern marketing tool. Meanwhile, threats faced by farmers include competition from products from outside the region, market price fluctuations, pest and disease attacks, and limited access to transportation and distribution of agricultural products.

The strategy for developing the local Papuan banana agribusiness in Sorong Regency can be implemented through increasing farmer capacity through training in cultivation and post-harvest technology, strengthening farmer group institutions, diversifying banana-based processed products, developing a modern marketing system, and increasing government support in the form of extension services, production facility assistance, and access to capital. With the implementation of appropriate and sustainable development strategies, the local Papuan banana agribusiness is expected to increase farmer incomes, create new business and job opportunities, and support sustainable regional economic development in Sorong Regency.

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