

ANALYSIS OF THE CONTRIBUTION OF SWALLOW(COLLOCALIA FUCIPHAGA) BUSINESS INCOME TO THE INCOME OF FARMER FAMILIES IN PASANGKAYU VILLAGE

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ABSTRACT

Swiftlet nest farming is an economic activity within the livestock sector that offers substantial and sustainable profits for business actors. This study aims to analyze the income generated from swiftlet nest farming and its contribution to the income of farming families in Pasangkayu Village, Pasangkayu Sub-district, Pasangkayu Regency. The sample utilized in this study consisted of 18 swiftlet farming families who met the specified criteria, drawn from a population of 93 farmers using a purposive sampling method. The data analysis methods employed in this study were income analysis and income contribution analysis. The results revealed that the average net income of the swiftlet nest business over a one-year period in Pasangkayu Village was IDR 48.530.218/year. This figure represents the net profit obtained by the farming families, derived from the difference between total revenue and total production costs. Meanwhile, the average total income earned by the farming families amounted to IDR 107.410.218. The contribution of the swiftlet nest business to the total income of the farming families was 45.18%. This value indicates that the swiftlet nest business provides a highly significant and strategic contribution, even serving as the primary pillar in supporting the family economy compared to other main occupations

Keywords: Swiftlet, Income, Contribution, Farmers

INTRODUCTION

Income is a vital element in economics that significantly influences the improvement of community quality of life through the manufacturing of goods and services. With income, individuals and families can meet their daily needs, enhance their welfare, and contribute to overall economic growth. The amount of income received by an individual is heavily influenced by the type of occupation, education level, skills possessed, and access to economic resources. In the context of microeconomic analysis, the term income refers specifically to the flow of earnings received within a certain period as compensation for providing production factors, which include natural resources, labor, and capital. Each of these production factors generates a different type of income; for instance, rent for natural resources, wages for labor, and interest or profit for capital (Alhudhori & Amali, 2020).

In West Sulawesi Province, particularly in Pasangkayu Regency, a phenomenon has emerged regarding the public's interest in establishing swiftlet house businesses. This trend is driven by the high economic value of swiftlet nest commodities in both local and international markets. The Department of Food Crops, Horticulture, and Livestock (DTPHP) of West Sulawesi noted that in 2023, there were 1,594 swiftlet nest buildings in Pasangkayu Regency, with a production potential of approximately 9 tons/year, valued at up to IDR 108 billion annually.

The swiftlet business promises substantial profits and the opportunity to become a long-term source of passive income. Swiftlet farming can be conducted using specialized buildings (swiftlet houses) and does not require extensive land, making it suitable for both urban and rural areas. In Pasangkayu Village, Pasangkayu Sub-district, Pasangkayu Regency, the community has begun to take an interest in the swiftlet business as a means of economic diversification. Several residents have independently established swiftlet houses using personal capital or through business partnerships. This phenomenon reflects an increasing public awareness of the importance of exploring new economic opportunities. However, the risk associated with this business is considerably high. Due to the substantial capital investment and operational costs

required, it can take many years before the nests can be harvested, and there is a possibility of generating no yield at all if the business is not managed properly.

Although many people have begun to show interest in the swiftlet business, there is still a lack of in-depth research examining its contribution to increasing the income of swiftlet farming families in Pasangkayu Village. Empirical data showing the extent to which the swiftlet business affects the local community's income remains unavailable. Therefore, it is highly critical to conduct a study that evaluates the role of the swiftlet business in increasing community income in this region. The results of this study are expected to provide clear information regarding the potential of the swiftlet business to improve local welfare and serve as a reference for policies that support local economic development based on swiftlet business potential.

Based on the background described above, this study was conducted to analyze the income obtained by farmers from swiftlet cultivation, as well as the percentage of this income's contribution to the total overall income of the farming families. The objective of this research is to investigate how the swiftlet business can help increase community income in Pasangkayu Village, Pasangkayu Sub-district, Pasangkayu Regency. Ultimately, this study is expected to provide a clear understanding of the function of the swiftlet business in the local economy and offer recommendations for local governments to develop economic strategies based on local potential.

MATERIALS AND METHODS

This research was conducted in Pasangkayu Village, Pasangkayu Sub-district, Pasangkayu Regency over a period of two months, from October 29 to December 29, 2025. The sample was determined using a purposive sampling technique, which involves selecting samples based on specific criteria among swiftlet nest farmers. The number of respondents who met the criteria in this study was 18 swiftlet nest farmers out of a total population of 93.

The sampling method was conducted using a purposive sampling technique targeting swiftlet farming families based on the following criteria:

1. The swiftlet nest business has been generating income for three years following the first harvest.
2. The business practitioner is the direct owner of the swiftlet nest enterprise, not merely a manager or a worker.
3. The swiftlet nest business is not the primary occupation, but rather serves as a side business.

The data sources utilized in this study comprised primary and secondary data (Balaka, 2022). Data collection methods included observation, interviews, questionnaires, and documentation at the research site. Data analysis employed income and contribution analyses. The analysis formulas used are as follows:

1. Revenue Analysis

Total cost represents the sum of all costs by adding fixed costs and variable costs (Anggraeni & Subari, 2020). It can be calculated as follows:

$$I = TR - TC$$

Description:

I = Income

TR = Total Revenue

TC = Total Cost

a. Total Cost

The total cost is the total cost by summing up fixed costs and variable costs (Anggraeni & Subari, 2020). It can be calculated as follows:

$$TC = FC + VC$$

Description :

TC = Total Cost

FC = Fixed cost

VC = Variable cost (variable cost)

b. Total Revenue

total revenue can be determined by multiplying the production volume by the price of the product per unit (Anggraeni & Subari, 2020). It can be calculated as follows:

$$TR = P \cdot Q$$

Description:

TR = Total Revenue/Total Revenue

P = Selling price/ unit (IDR)

Q = Production quantity (units/Kg)

2. Contribution analysis

According to Hakiki (2024), income contribution analysis is calculated by dividing the income from the swiftlet nest business by the total income of the farming family. The formula for contribution is as follows:

$$IC = \frac{X}{Y} \times 100\%$$

Description:

IC = Income Contribution of the swiftlet nest business (%)

X = Swiftlet nest business income (IDR)

Y = Total income of the farming family (IDR)

RESULTS AND DISCUSSION

1. Income Analysis of Swiftlet Nest Farming

According to Abdul Hakim (2018), evaluating the economic success of a business heavily relies on income analysis, which serves as a benchmark for profitability and business continuity. Fundamentally, income is the result of deducting total production costs from total revenue. This analysis plays a crucial role in determining the profit or loss status of the business as well as measuring the efficiency of production inputs in swiftlet nest farming. The following table presents the income analysis of the swiftlet nest farming business.

Table 1. Analysis of Annual Swallow Nest Cultivation Business Income in Pasangkayu Village, Pasangkayu District, Pasangkayu Regency.

No	Type	Average (IDR)
1	Revenue(TR)	
	Price/IDR (P)	10.979.500
	Production/Kg (Q)	5.29 kg
Total Revenue (TR)		58.081.555
2	Total Cost(TC)	
	Fixed Cost (FC)	8.324.003
	Variable Cost (VC)	1.227.334
Total Cost (TC)		9.551.337
Income I=TR-TC		48.530.218

Premiere Date 2025

Table 1 presents the annual income analysis of farming families engaged in the swiftlet nest business in Pasangkayu Village, where cost expenditures are directed toward maximizing yields. This aligns with the findings of Murtadho et al. (2023), which highlighted a high net income relative to the total operational costs incurred. However, in swiftlet farming, the level of income is not solely determined by the magnitude of expenditure. Instead, it depends on the effectiveness of these costs in optimizing technical factors such as spatial layout, temperature, humidity, and strategic location. Therefore, the primary key to maximizing income and covering operational costs lies in the successful management of the building to create a comfortable environment for the swiftlet colonies, thereby increasing production volume.

2. Fixed costs

In the financial structure of the swiftlet nest business, fixed costs are defined as the accumulated funds that farmers are obligated to spend to fulfill capital and operational infrastructure requirements. Fixed costs are expenses whose total is not influenced by the output or harvest yield (Nainggolan et al., 2024). These costs are characterized by their constancy and inelasticity relative to production volume. This indicates that the magnitude of fixed costs has no correlation with fluctuations in harvest yields; whether there is an increase in revenue or a decline in production quantity, the burden of these costs remains unchanged, as detailed in the following table.

Table 2. Annual Average Fixed Costs of Swiftlet Nest Farming in Pasangkayu Village.

No	Types of Fixed Cost	Cost Name Fixed	Average Cost (IDR)
1	Depreciation Costs	Speaker	254.613
		Amplify	64.063
		USB Audio	27.250
		CCTV	20.400
		Solar Panels	149.700
		Power Storage	149.760
		Auto Timer	14.617
		Permanent Staircase	47.440
		Harvesting Tools	23.700
		Storage Containers	37.350
		Buildings	2.598.333
		Electrical Installation	883.533
2	Tax Costs	Land and Building Tax (PBB)	265.667
3	Fixed Fees	Electricity Subscription	3.258.167
		Labor	529.412
Average Amount of Fixed Costs:			8.324.003

Premiere Date 2025

Table 2 indicates that the annual average fixed costs of the swiftlet nest business in Pasangkayu Village amount to IDR 8,324,003, encompassing asset depreciation (equipment and buildings), taxes (Land and Building Tax/PBB), and fixed fees such as electricity and labor. The magnitude of this fixed burden is predominantly driven by the electricity subscription cost (IDR 3.258.167) and building depreciation, given that the building's operation necessitates a continuous power supply and permanent infrastructure to encourage swiftlet adaptation. This finding aligns with the research conducted by Nurhamidin et al. (2018), which emphasizes that cost components such as salaries, rent, and taxes are expenses that remain totally fixed over a specific period of time.

3. Variable Costs

According to Nainggolan and Suwarni (2024), variable costs are expenses whose magnitude fluctuates in proportion to changes in output during the expenditure period for production inputs. These range from building maintenance costs, such as purchasing pesticides for pest and disease control, to the use of auxiliary tools for harvest processing. The following table presents the annual average variable costs:

Table 3. Annual Average Variable Costs of Swiftlet Nest Farming in Pasangkayu Village.

No	Variable Cost Type	Variable Cost Name	Cost Average (IDR)
1	Building Maintenance	Pesticides	307.444
		Perfume Attraction	301.778
		Pest Traps	8.889
		Brooms	58.278
		Sacks	110.833
		Dustpans	48.167
2	Auxiliary Tools	Flashlight	118.111
		Temporary Pockets Bags	56.389
		Gloves	60.222

Pesticide Sprayer	60.667
Water Sprayer	52.778
Attractor Sprayer	43.778

Average Variable Cost Amount **1.227.334**

Premiere Date 2025

The data presented in Table 3 indicates that the high cost allocation for attractant perfumes and pesticides demonstrates the farmers' primary focus on maintaining habitat comfort and controlling pests to sustain the swiftlet population. This aligns with the findings of Nurhamidin et al. (2018) regarding the annual variable cost expenditures in this business. Furthermore, there are expenses for operational auxiliary tools, such as flashlights, gloves, and sprayers, which, despite their relatively smaller values, are highly crucial in supporting the effectiveness of the harvesting process and building maintenance.

4. Revenue of the Swiftlet Nest Farming Business

Total revenue from swallow nest cultivation business activities in the Village Pasangkayu is recorded with an average of IDR 58.081.555 per year. The receipt of the results of this business is very relative, because technical factors such as the adaptation of the building layout and temperature and humidity conditions are different from each respondent so that it greatly affects the production volume. In addition, the effectiveness of the use of production inputs that focus on the comfort of the colony also affects crop yields and has an effect on the total acceptance of respondents.

This is in line with research (Murtadho et al., 2023) which explains that the factor that determines the success of the swallow's nest business is the ideal location and quality of housing. This condition shows that the income of each respondent does not always depend on the amount of cost alone, but how successful the management is in managing the condition of the building so that productivity remains maximum

5. Income of Swiftlet Farming Families

The income of farming families in Pasangkayu Village is classified into three categories: *on-farm* income (direct extraction of natural resources), *off-farm* income (agribusiness support activities), and *non-farm* income (sectors outside agriculture such as services and trade). This classification demonstrates that although swiftlet nest farming is a crucial occupation, the farmers do not rely solely on a single source of livelihood; instead, they strive to maximize their income by utilizing various business sectors. The details of the farming families' income sources can be seen in the following table:

Table 5. Average Income of Swiftlet Farming Families in Pasangkayu Village

Job Classification	Total Income (IDR)	Percentage (%)
On Farm	84.000.000	7.90
Off Farm	257.880.000	24.30
Non Farm	717.960.000	67.80
Total	1.059.840.000	100
Annual Average	IDR 58.880.000	

Premiere Date 2025

Table 5 indicates that the average primary income of swiftlet nest farmers in Pasangkayu Village reaches IDR 58.880.000 per year, with a significantly dominant contribution from the non-agricultural (*non-farm*) sector. Although this figure is lower than the findings of Rajani et al. (2021), which amounted to IDR 68.400.000 per year, the data confirms that the economic stability of swiftlet farmers is, in fact, primarily supported by business diversification in the trade and services (*non-farm*) sectors. This sector has proven capable of providing a substantially higher financial value-add to their main income compared to sectors sourced directly from nature.

6. Contribution of the Swiftlet Nest Business

Contribution refers to the percentage share provided by a specific type of income. Due to fluctuations in harvest yields and the limitations of relying on a single source of income, farmers frequently diversify their livelihoods to obtain additional financial income. This strategy classifies the farmers' primary income sources into three sub-sectors: *on-farm* and *off-farm*, which are still based on natural resource

management and agribusiness, and *non-farm*, which is an alternative income source entirely separate and unrelated to the agricultural or livestock sectors. The following table presents the contribution of the swiftlet nest business:

Table 6 Annual Contribution of the Swiftlet Nest Business in Pasangkayu Village

No	Description	Average (IDR)
1	Swiftlet Nest Business Income	48.530.218
2	Farmer Family Income	58.880.000
3	Total Revenue	107.410.218
Contribution of the Swiftlet Nest Business		45,18%.

Premiere Date 2025

Table 6 indicates that the swiftlet nest business provides a highly significant contribution, amounting to 45.18% of the farming families' income in Pasangkayu Village. This figure is stated to be much larger compared to the findings of Rajani et al. (2021), which recorded a percentage of 52%. This confirms that swiftlet farming plays a highly significant and strategic role in supporting the farmers' total primary income, with the magnitude of its contribution nearly equaling the income derived from their main occupations.

This 45.18% contribution presents strategic implications for the improvement of the socio-economic welfare of the farmers in Pasangkayu Village. Economically, this high percentage proves that the swiftlet nest business has transformed from a mere supplementary income into a crucial pillar supporting the farmers' primary income. This condition provides broader financial flexibility for the farmers to realize various long-term investments that were previously difficult to attain, such as funding for higher education, improving housing quality, and establishing more adequate health reserve funds.

The dominant contribution of swiftlet farming reflects strong local economic leverage, as it is capable of providing a much more progressive value-add compared to other conventional occupations. The high dependence on this sector is not a risk; rather, it is concrete evidence of the successful diversification of the farmers' primary income sources, which has proven effective in alleviating poverty and improving the living standards of the Pasangkayu Village community significantly and sustainably.

CONCLUSIONS

The average net income from the swiftlet nest farming business in Pasangkayu Village, Pasangkayu Sub-district, Pasangkayu Regency, undertaken by 18 respondents, reaches IDR 48.530.218 per year. This income represents the pure profit obtained after calculating the difference between the total revenue from the sale of the harvest and all production costs incurred, encompassing both fixed and variable costs over one year of operation. Considering the nature of this high-value commodity sourced directly from nature, the management of swiftlet nests has proven capable of providing highly profitable financial flows and promising economic sustainability for its managers in the region.

The average total income of swiftlet farming families in Pasangkayu Village accumulates to IDR 107.410.218 per year. Although this calculation summarizes the farming families' economy in general, its substance specifically represents the complete primary income of the farmers. This accumulated total annual income is a comprehensive combination of the profits from the swiftlet nest business and the revenue from various other employment sectors, including both main professions and various side businesses. This accumulated value serves as a strong indicator of the high purchasing power and financial capacity successfully gathered to maintain economic stability.

The percentage of income contribution from the swiftlet nest business to the total income of the farming families in Pasangkayu Village is recorded at a portion of 45.18%. This percentage firmly indicates that swiftlet nest farming provides a highly significant economic contribution with strategic dimensions for improving the standard of welfare. With a ratio approaching half of the farmers' total primary income, this business can no longer be viewed merely as supplementary income; rather, it has transformed into a central supporting pillar that crucially guarantees the economic resilience of the farmers.

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