

Feasibility Analysis Of Garden Balsam (*Impatiens Balsamina L.*) Farming During Hindu Festival And Ordinary Days In Baru Village, Marga District, Tabanan Regency

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One of the horticultural commodities widely used in religious activities of the Balinese Hindu community is the balsam flower (*Impatiens balsamina L.*). This plant is usually cultivated as a side business because it is easy to produce, can be harvested daily, and has the potential to provide additional income for farmers. However, farmers generally do not record costs and income in detail so that the level of feasibility and contribution of balsam flower farming to farmer household income is not yet known with certainty, especially during holidays and normal days. The purpose of this study was to determine the income of balsam flower farming during the holiday season and normal days, as well as to determine the feasibility value of henna water farming during the holiday season and normal days. The sampling technique in this study used the Slovin formula, and obtained a sample of 71 henna water farmers in Baru Village. The data collection method in this study used the formula for income, profit, feasibility and paired variable t-test. The results of the study show that 1) The income of the water palm farming business during the holiday season in Baru Village, Marga District, Tabanan Regency is Rp 65,228,713.62 with an average land area of 22.79 ares. 2) The income of the water palm farming business during the normal season in Baru Village, Marga District, Tabanan Regency is Rp 3,661,107.98 with an average land area of 22.79 ares. 3) The feasibility of the water palm farming business in Baru Village during the holiday season is at a value of 4.26, meaning that for every Rp 1,000 spent, it will receive an income of Rp 4,260. Meanwhile, the feasibility value of the water palm farming business in Baru Village on normal days is 1.19, meaning that for every Rp 1,000 spent, it will receive an income of Rp 1,190

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1. Introduction

The agricultural sector remains a vital pillar of Indonesia's economy, particularly in rural areas where many household depend on farming activities for their livelihoods. Horticultural commodities play an important role in supporting regional economic growth, especially when they have strong market demand and competitive value (Vaulina & Rahmi, 2013; Wijaya, 2025). One horticultural commodity cultivated by local communities is balsam flower (*impatiens balsamia L.*) which has economic value due to increased demand during hindu festival seasons. In Desa Baru, Marga District, Tabanan Regency, this crop serves as an important supplementary source of household income for farmers. However, significant price fluctuations between festive periods and regular days create uncertainty regarding the profitability of balsam farming.

In addition, many farmers do not maintain systematic records of production costs and revenues, making it difficult to accurately assess the economic feasibility of their farming activities. Reliable information on cost structure, revenue, and income is essential for informed decision-making in farm

management (Suratiyah, 2015; Sari, 2016). The limited availability of regional data on balsam flower production and market demand further highlights the need for a comprehensive scientific study.

Based on these conditions, the objective of this study is to determine the income and feasibility of balsam flower farming during hindu festive seasons and regular days. The result are expected to provide a clear understanding of the contribution of this commodity to farmers household economies, while also serving as a reference for developing more effective and sustainable production strategies. Therefore, this study plays an important role in supporting the improvement of farmers' welfare and the development of horticultural farming in the research area.

2. Method

2.1. Location and Time of Research

This study was conducted in Baru Village, Marga District, Tabanan Regency, from October to December 2025

2.2. Population and Sample

The population in this study consists of all farmers and owners of balsam farming businesses in Baru Village, totaling 250 people. Meanwhile, the sample in this study comprises 71 farmers and owners of balsam farming businesses in Baru Village, determined using the Slovin formula.

2.3. Data Collection Technique

This study employs several data collection technique to obtain comprehensive and accurate information relate to the feasibility analysis of balsam flower farming. The techniques used in this research include observation, interviews, questionnaires, literature study, and documentation.

2.4. Data Anaysis Methods

The data collected in this study were analyzed using quantitative descriptive methods to assess production costs, revenues, income, and the feasibility of balsam flower farming during the festive and ordinary seasons. The data analysis methods used in this study are described below:

- Analysis of Total Production Cost (TC)

Total production costs are calculated by summing total fixed costs and total variable costs incurred during a production period. Fixed costs include land rent, land tax, and equipment depreciation, while variable costs consist of input costs such as seeds, fertilizers, pesticides, and labor cost.

The formulas used is :

Total Production Cost:

$$TC = TFC + TVC$$

Where:

TC = Total Cost

TFC = Total Fixed Cost

TVC = Total Variable Cost

- Analysis of Farm Revenue

Farm revenue is calculated by multiplying the production quantity by the selling price per unit. This analysis is conducted separately for festive and ordinary seasons.

The formula used is:

$$TR = Q \times P$$

Where:

TR = Total Revenue

Q = Quantity of production

P = Price per unit

- Analysis of Farm Income

Farm income is calculated as the difference between total revenue and total production costs. This analysis measures the profit earned by farmerse during a production cycle.

The formula used is:

$$\pi = \text{TR} - \text{TC}$$

Where:

π = Farm income (profit)

TR = Total Revenue

TC = Total Cost

- Feasibility Analysis Of Farming

The feasibility of balsam flower cultivation is analyzed using the return cost ratio (R/C ratio). This ratio compares total revenue with total production costs to determine whether the farming activity is economically profitable.

The formula used is:

$$\text{R/C Ratio} = \text{TR} / \text{TC}$$

The feasibility criteria are as follows:

If $\text{R/C} > 1$, the farming activity is feasible and profitable.

If $\text{R/C} = 1$, the farming activity breaks even.

If $\text{R/C} < 1$, the farming activity is not feasible.

- Paired Sample t-Test

A paired t-test is used to determine whether farm income and profitability differ significantly between the festive season and the normal season. This statistical test is applied because the data are paired and come from the same respondents under two different conditions.

The formula used is:

$$t = \bar{D} / (SD / \sqrt{n})$$

Where:

t = calculated t-value

$\bar{D}$ = mean difference between paired observations

SD = standard deviation of the differences

n = number of samples

The hypothesis test is performed with a significance level of 5% ($\alpha = 0.05$). If the significance value (p-value) is less than 0.05, there is a statistically significant difference between the two conditions.

3. Results and Discussion

3.1. Balsam Farming Cost Analysis

The costs of this study consist of fixed costs and variable costs. Fixed costs are expenditures whose amount remains constant regardless of production activities (Fidiya, 2024). Variable costs, on the other hand, can fluctuate over time and rise or fall proportionally to the production level (Lativa, 2024). Based on the results of the data analysis, the average fixed and variable costs of the balsam farming in Desa Baru are presented in Table 1.

Table 1. Balsam Farming Cost Analysis

No	Description	Average Amount
1	Fixed Cost	
	Land Rent	739.437
	Land Tax	73.944
	Equipment Depreciation	30.019
2	Variabel Cost	
	Seeds	-
	Plastic Mulch	1.143.662
	NPK Fertilizer	538.732
	Dupont (pesticide)	200.563,38
	Miravis Duo (pesticide)	263.661,97
	Labor Cost	17.291.830,99
	Total Cost	20.281.849,77

According to Table 1, the total cost of balsam cultivation in Baru Village amounts to 20,281,849.77 rupiah per planting season. Labor costs represent the largest cost factor, at 17,291,830.99 rupiah per planting season. Seed costs are not incurred in Baru Village, as the farmers surveyed typically grow their own balsam seedlings from seeds collected directly from the cultivated balsam plants.

3.2. Balsam Farming Income During Festive Seasons and Ordinary Days

Income from farming activities is the difference between farmers' total revenue and all costs incurred during the production process. Ideally, this income should be positive (Cindika, 2022). Revenue represents the total gross income from farming activities within a given period, regardless of whether it comes from direct sales or estimated return value. It is calculated by multiplying the production quantity by the selling price per unit (Suratiah, 2015 in Prasakti, 2025). Revenue from balsam farming during the festive and normal seasons is described in more detail in Table 2.

Table 2. Balsam Farming Revenue During Festive Seasons and Ordinary Days

Description	Average Production (Kg)	Price per Kg (Rp)	Revenue (Rp)
Festive Season	3.420,4	7.000	85.510.563,38
Ordinary Days	3.420,4	25.000	23.942.957,75

Table 2. shows that the average revenue from balsam farming during the festive seasons is 85,510,563.38 rupiah, at a selling price of 25,000 rupiah per kg and an average production of 3,420.4 kg per 22.79 ares. The average revenue on ordinary days is significantly lower at 23,942,957.75 rupiah, with a selling price of 7,000 rupiah per kg and the same average production of 3,420.4 kg per 22.79 ares. Detailed total revenues during the festive seasons and on ordinary days are shown in Table 3.

Table 3. Balsam Farming Income During Festive Seasons and Ordinary Days

Description	Revenue (Rp)	Total Cost (Rp)	Income (Rp)
Festive Seasons	85.510.563,38	20.281.849,77	65.228.713,62
Ordinary Days	23.942.957,75	20.281.849,77	3.661.107,98

Table 3. shows that income from balsam farming fluctuates significantly between festive seasons and regular days. During the festive, average income is 65,228,713.62 rupiah, while on regular days it is only 3,661,107.98 rupiah. This is due to the high demand for Balsam flowers from the Balinese population during the festive, which leads to a sharp price increase in the market.

3.3. Feasibility Analysis of Balsam Farming During Festive Seasons and Ordinary Days

Feasibility analysis is an evaluation method used to determine the potential benefits of a business activity. It serves as the basis for assessing the economic viability of the enterprise (Yacob, 2009 in

Sari, 2024). The Feasibility of farming is measured using the return-cost ratio (R/C ratio). The higher the profit per rupiah invested and the higher the R/C ratio, the more profitable the Farming business is considered (Fidiya, 2024). A more detailed feasibility analysis of balsam farming during the festive and normal seasons in Baru Village is presented in Table 4.

Table 4. Feasibility of Balsam Farming During Festive Seasons and Ordinary Days

Description	Total Revenue (Rp)	Total Cost (Rp)	Feasibility
Festive Seasons	85.510.563,38	20.281.849,77	4,26
Ordinary Days	23.942.957,75	20.281.849,77	1,19

Table 4 shows that the feasibility of balsam farming in Baru Village during the festive seasons is 4.26. This means that every 1,000 rupiah invested generates a return of 4,260 rupiah. On normal days, the feasibility is significantly lower at 1.19, but still profitable. In this case, every 1,000 rupiah invested generates a return of 1,190 rupiah.

3.4. Paired Sample t-Test

The paired t-test is a hypothesis testing procedure used when the analyzed data are related or paired. A typical case of paired data is when a single object or person receives two different treatments. The

		Paired Samples Test					Significance		
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	
					Lower	Upper			One-Sided p
									Two-Sided p
Pair 1	Hari Biasa - Hari Raya	-306.451	43.463	5.158	-316.738	-296.163	-59.412	70	<,001

results of the paired t-test analysis of the feasibility of balsam farming during the festive seasons and on normal days are shown in Figure 1.

Fig. 1. Paired Sample t-Test of Balsam Farming Feasibility During Festive Seasons and Ordinary Days

The results of the data analysis in Figure 1. show that the difference in means is negative. This indicates that the feasibility of balsam farming is higher on festive seasons than on normal days. The two-sided significance level ($p = 0.001 < 0.005$) confirms a significant difference in the feasibility of balsam farming in Baru Village between festive seasons and normal days. The non-zero confidence interval further supports this difference.

4. Conclusion

Based on the analysis and discussion in this study, the following conclusions were drawn: Income from balsam farming during the festive season in Baru Village, Marga District, Tabanan Regency reached 65,228,713.62 rupiah, with an average land area of 22.79 ares. Income from balsam farming during the regular season in Baru Village, Marga District, Tabanan Regency reached 3,661,107.98 rupiah, with an average land area of 22.79 ares. The feasibility of balsam farming in Baru Village during the festive season has a value of 4.26, meaning that for every 1,000 rupiah invested, farmers receive an income of 4,260 rupiah. Meanwhile, the feasibility value of impatiens cultivation in Baru Village during the regular season is 1.19, meaning that for every 1,000 rupiah invested, farmers receive an income of 1,190 rupiah.

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Data and Software Availability Statements

The data underlying this study were collected through field studies and interviews with farmers and are not publicly available due to privacy and confidentiality considerations. However, the data are available form the corresponding author upon reasonable request. The software used for data processing and statistical analysis is publicly available and generally accessible.

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